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Transportation 2030 Plan for the San Francisco Bay Area
October 2004



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Prepared for

Metropolitan Transportation Commission

by

DYETT & BHATIA
Urban and Regional Planners

In association with

Environmental Science Associates • *Environmental Consultants*
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OCTOBER 2004

TRANSPORTATION 2030 PLAN

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ASTROLOGICAL TRANSMISSION AT THE EQUINOX

1. The purpose of this study is to determine the effect of the Earth's magnetic field on the transmission of radio waves at the equinox.

2. The study was conducted at the equinox of 1964, and the results are presented in this report.

3. The study was conducted at the equinox of 1964, and the results are presented in this report.

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CONCLUSIONS AND RECOMMENDATIONS

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Table of Contents

EXECUTIVE SUMMARY

PART ONE – INTRODUCTION AND STUDY APPROACH

1.1 Introduction and Study Approach

Introduction.....	1-1
Approach to the Study.....	1-6

1.2 Overview of the Proposed Transportation 2030 Plan

Purpose and Objectives	1.2-1
Project Background	1.2-3
Project Description – Transportation 2030 Plan	1.2-7

PART TWO - SETTINGS, IMPACTS, AND MITIGATION MEASURES

2.1 Transportation

Environmental Setting.....	2.1-1
Impact Analysis.....	2.1-6

2.2 Air Quality

Environmental Setting.....	2.2-1
Impact Analysis.....	2.2-17

2.3 Land Use, Housing, and Social Environment

Environmental Setting.....	2.3-1
Impact Analysis.....	2.3-20

2.4 Energy

Environmental Setting.....	2.4-1
Impact Analysis.....	2.4-7

2.5 Noise

Environmental Setting.....	2.5-1
Impact Analysis.....	2.5-13

2.6 Geology and Seismicity

Environmental Setting.....	2.6-1
Impact Analysis.....	2.6-13

2.7 Water Resources

Environmental Setting.....	2.7-1
Impact Analysis.....	2.7-9

2.8 Biological Resources

Environmental Setting.....	2.8-1
Impact Analysis.....	2.8-12

2.9 Visual Resources	
Environmental Setting.....	2.9-1
Impact Analysis.....	2.9-5
2.10 Cultural Resources	
Environmental Setting.....	2.10-1
Impact Analysis.....	2.10-4
2.11 Growth-inducing Impacts	
Population and Employment Growth Trends and Projections	2.11-1

PART THREE – ALTERNATIVES AND CEQA-REQUIRED CONCLUSIONS

3.1 Alternatives to the Project	
Alternatives Screening	3.1-1
Alternatives Analyzed in this EIR	3.1-2
Comparative Impact Analysis	3.1-6
Environmentally Superior Alternative	3.1-36
3.2 CEQA Required Conclusions	
Significant Irreversible Environmental Changes	3.2-1
Growth Inducing Impacts	3.2-1
Cumulative Impacts	3.2-2
Impacts Not to be Found Significant.....	3.2-3

PART FOUR – BIBLIOGRAPHY AND APPENDICES

APPENDIX A: NOTICE OF PREPARATION (NOP) & SUMMARY OF NOP COMMENTS AND PUBLIC SCOPING MEETING

APPENDIX B: WRITTEN COMMENTS IN RESONSE TO NOTICE OF PREPARATION (NOP)

APPENDIX C: PROJECT LISTINGS FOR THE TRANSPORTATION 2030 PLAN AND ALTERNATIVES

APPENDIX D: DETAILED ASSUMPTIONS FOR TRANSDEF SMART GROWTH ALTERNATIVE AND COMPARISON OF ABAG AND TRANSDEF SMART GROWTH ALTERNATIVE PROJECTIONS, 2000-2030

APPENDIX E: SUMMARY COMPARISON OF PROJECTIONS 2003 & PROJECTIONS 2002

APPENDIX F: BIOLOGICAL RESOURCES SUMMARY

List of Tables

1.2 Overview of the Proposed Transportation 2030 Plan

Table 1.2-1: Golden Gate Corridor.....	1.2-12
Table 1.2-2: North Bay East-West Corridor.....	1.2-16
Table 1.2-3: Napa Valley Corridor.....	1.2-18
Table 1.2-4: Eastshore North Corridor.....	1.2-20
Table 1.2-5: Delta Corridor.....	1.2-24
Table 1.2-6: Diablo Corridor	1.2-26
Table 1.2-7: Tri-Valley Corridor.....	1.2-27
Table 1.2-8: Sunol Gateway Corridor.....	1.2-30
Table 1.2-9: Eastshore South Corridor.....	1.2-32
Table 1.2-10: Fremont-South Bay Corridor.....	1.2-34
Table 1.2-11: Silicon Valley Corridor	1.2-36
Table 1.2-12: Peninsula Corridor	1.2-40
Table 1.2-13: San Francisco Corridor.....	1.2-44
Table 1.2-14: Transbay Corridors.....	1.2-46

2.1 Transportation

Table 2.1-1: Bay Area Travel Behavior, 2000	2.1-1
Table 2.1-2: Trip Purpose, 2000.....	2.1-2
Table 2.1-3: Average One-Way Commute Distance by County, 2000	2.1-2
Table 2.1-4: Bay Area Resident Workers by Means of Transportation to Work, 1990-2000.....	2.1-3
Table 2.1-5: Average Travel Time to Work, 1990-2000.....	2.1-3
Table 2.1-6: Bay Area Resident Workers Commute Patterns by County, 1990-2000	2.1-4
Table 2.1-7: Growth in Regional Population/Employment, Vehicle Availability Level, and Trips (2000 and 2030).....	2.1-9
Table 2.1-8: Projected Changes in Travel Behavior (2000 and 2030).....	2.1-10
Table 2.1-9: Roadway Lane Miles and Transit Seat Miles (2000 and 2030)	2.1-11
Table 2.1-10: Average Travel Time Per Trip (2000 and 2030, in minutes)	2.1-12
Table 2.1-11: Accessibility to Jobs (2000 to 2030)	2.1-14
Table 2.1-12: Average Weekday Daily Vehicle Trips by County-of-Origin	2.1-15
Table 2.1-13: AM Peak Period Regional Vehicle Miles Traveled (VMT) by Facility Type and Volume to Capacity (V/C) Ratio (2000 to 2030)	2.1-16

2.2 Air Quality

Table 2.2-1: Ambient Air Standards for Criteria Pollutants.....	2.2-3
Table 2.2-2: Ten-Year Bay Area Air Quality Summary (1994-2003).....	2.2-4
Table 2.2-3: Days Exceeding the National 1-Hour Ozone Standard (1983 to 2003)	2.2-6
Table 2.2-4: Days Exceeding the State 1-Hour Ozone Standard (1985-2003)	2.2-7
Table 2.2-5: Days Exceeding the National 8-Hour Ozone Standard (1998-2003)...	2.2-8
Table 2.2-6: Five New Transportation Control Measures in State Implementation Plan (2001 Ozone Attainment Plan)	2.2-15

Table 2.2-7: Transportation Contro Measures Proposed in Draft Bay Area 2004 Ozone Strategy	2.2-16
Table 2.2-8: Travel Data	2.2-18
Table 2.2-9: Emission Estimates for Criteria Pollutants using EMFA2002 Factors (tons per day)	2.2-19

2.3 Land Use, Housing, and Social Environment

Table 2.3-1: Year 2000 Density of Development in the Bay Area by MTC Superdistrict	2.3-5
Table 2.3-2: Density of Development in the Bay Area by County	2.3-6
Table 2.3-3: Bay Area Land Use Characteristics.....	2.3-9
Table 2.3-4: Bay Area Agricultural Lands.....	2.3-12
Table 2.3-5: Bay Area Agricultural Lands, 1954 and 1997.....	2.3-14
Table 2.3-6: Williamson Act Lands, 2001.....	2.3-15
Table 2.3-7: Occupied Housing Units in the Bay Area (1980-2030)	2.3-16
Table 2.3-8: Average Household Size in the Bay Area (1980-2030)	2.3-17
Table 2.3-9: Type of Farmland Potentially Affected by Proposed Project	2.3-24
Table 2.3-10: Types of Projects Potentially Affecting Agricultural Land.....	2.3-24
Table 2.3-11: Farmland Acres Potentially Affected by Proposed Project	2.3-25
Table 2.3-12: Urban Growth Boundaries and County-wide Land Use Measures	2.3-26
Table 2.3-13: Type and Amount of Land Use Potentially Disrupted by Proposed Project	2.3-27
Table 2.3-14: Types of Projects Potentially Disrupting Existing Land Use	2.3-27
Table 2.3-15: Existing Land Use Acres by Corridor Affected by Proposed Project.....	2.3-28
Table 2.3-16: Projects that Intersect with Airport Planning Areas	2.3-32
Table 2.3-17: Change in Highway Supply, 2030 vs. 2000	2.3-33
Table 2.3-18: Change in Transit Supply, 2030 vs. 2000	2.3-33

2.4 Energy

Table 2.4-1: Gasoline Consumption in the San Francisco Bay Area 2000 to 2002, in 1,000 Gallons	2.4-3
Table 2.4-2: Energy Factors of Transit Services	2.4-4
Table 2.4-3: Direct Energy Data.....	2.4-8
Table 2.4-4: Indirect Energy Consumption Factors	2.4-9
Table 2.4-5: Carbon Dioxide Emissions	2.4-10
Table 2.4-6: Estimated Daily Direct and Indirect Energy Consumption (in Billion BTUs)	2.4-11

2.5 Noise

Table 2.5-1: Reference Noise Levels for Various Rail Operations.....	2.5-7
Table 2.5-2: Typical Construction Phase Noise Levels.....	2.5-8
Table 2.5-3: Typical Noise Levels from Construction Equipment	2.5-9
Table 2.5-4: Rail Transit Noise Impact Criteria: Effect on Cumulative Noise Exposure	2.5-13

Table 2.5-5: Roadway Directional Miles > 66 dBA NAC Level, and Total Directional Miles, by Roadway Type and County (2000-2030).....	2.5-16
Table 2.5-6: Roadway Directional Miles with Significant Increase in Noise Levels (> 3 dBA), 2000 to 2030 No Project and 2030 Project Scenarios	2.5-17
Table 2.5-7: Transportation Projects with Potential Noise Impacts.....	2.5-22

2.6 Geology and Seismicity

Table 2.6-1 Active Faults In the MTC Study Area	2.6-4
Table 2.6-2: Modified Mercalli Intensity Scale.....	2.6-8
Table 2.6-3: Projects Susceptible to Surface Fault Rupture, Landslides, or Liquefaction.....	2.6-20

2.7 Water Resources

Table 2.7-1: Projects Located Within a 100-Year Floodplain	2.7-16
--	--------

2.8 Biological Resources

Table 2.8-1: Major Rivers and Creeks in the Bay Area	2.8-6
Table 2.8-2: Projects that Could Potentially Impact Wetlands, Special Status Plant or Wildlife Species, or Designated or Proposed Critical Habitat	2.8-21

2.9 Visual Resources

Table 2.9-1: Transportation 2030 Projects with Potentially Significant Visual Impacts in Scenic Corridors	2.9-10
Table 2.9-2: Percent Developed Land by County, 2000-2030	2.9-14

2.10 Cultural Resources

Table 2.10-1: Recorded Archaeological and Historical Sites in the Bay Area	2.10-5
--	--------

2.11 Growth Inducing Impacts

Table 2.11-1: Population Growth in the Bay Area (1980-2030)	2.11-2
Table 2.11-2: Job Growth in the Bay Area (1980-2030)	2.11-2
Table 2.11-3: Top Ten Bay Area Cities by Population Growth (2000-2030)	2.11-3
Table 2.11-4: Top Ten Bay Area Cities by Employment Growth (2000-2030)	2.11-3
Table 2.11-5: Age Distribution in the Bay Area	2.11-4
Table 2.11-6: Population and Employment by Bay Area County – Net Importers/Exporters of Workers (Year 2000 and 2030).....	2.11-5
Table 2.11-7: Current and Projected Jobs/Housing Balance by County	2.11-6
Table 2.11-8: Current and Projected Jobs/Housing Balance by MTC Superdistrict	2.11-7

3.1 Alternatives to the Project

Table 3.1-1: Bay Area Regional Trips by Trip Purpose and Travel Mode	3.1-9
Table 3.1-2: Summary of Regional Household Auto Ownership & Workers in Household Forecasts (2000-2030)	3.1-10
Table 3.1-3: Roadway Lane Miles and Transit Seat Miles (2000-2030).....	3.1-12

List of Tables

Table 3.1-4: Projected Changes in Travel Behavior (2000-2030)	3.1-14
Table 3.1-5: Average Weekday Daily Vehicle Hours of Dealy (VHD) by County of Occurrence (2000-2030).....	3.1-14
Table 3.1-6: Average Travel Time per Trip (2000-2030).....	3.1-16
Table 3.1-7: Accessibility to Jobs (2000-2030).....	3.1-16
Table 3.1-8: Average Weekday Vehicle Trip by County-of-Origin	3.1-18
Table 3.1-9: AM Peak Period Regional VMT bu Facility Type and Volume to Capacity (V/C) Ratio (2000-2030)	3.1-19
Table 3.1-10: Travel Data	3.1-20
Table 3.1-11: Emission Estimates for Criteria Pollutants Using EMFAC2002 Factors (2000-2030) (in tons per day)	3.1-20
Table 3.1-12: Type and Amount (in acres) of Farmland Potentially affected by Alternatives.....	3.1-21
Table 3.1-13: Existing Land Use Acres Affected by Proposed Project and Alternatives	3.1-22
Table 3.1-14: Comparison of TRANSDEF's Land Use Assumptions and Residential Development Potential in General Plans.....	3.1-25
Table 3.1-15: Estimated Daily Direct and Indirect Energy Consumption (in Billion BTUs)	3.1-26
Table 3.1-16: Roadway Directional Miles > 66 dBA Noise Level, and Total Directional Miles, by Roadway Type and County	3.1-27
Table 3.1-17: Roadway Directional Miles with Significant Increase in Noise Levels (> 3dBA), Base Year 2000 to 2030 Alternatives	3.1-29
Table 3.1-18: Alternative Comparison of Number of Projects Susceptible to Surface Fault Rupture, Landslides, or Liquefaction	3.1-30
Table 3.1-19: Alternative Comparison of Number of Projects Located within the 100-year Floodplain	3.1-31
Table 3.1-20: Comparison of Project Impacts to Wetlands, Special Status Species, and Critical Habitat between Alternatives.....	3.1-32
Table 3.1-21: Comparison of Criteria for Scenic Impacts, by Alternative	3.1-33
Table 3.1-22: Comparison of Projected 2030 Jobs/Housing Balance ABAG Projections 2003 & TRANSDEF Smart Growth Alternatives.....	3.1-35
Table 3.1-23: Comparison of Alternatives to the Proposed Transportation 2030 Plan	3.1-37
Table 3.1-24: Summary of Alternatives Comparison	3.1-39

List of Figures

1.2 Overview of the Proposed Transportation 2030 Plan

Figure 1.2-1: Regional Setting	1.2-5
Figure 1.2-2: Population Growth by County (2000-2030)	1.2-6
Figure 1.2-3: Employment Growth by County (2000-2030)	1.2-6
Figure 1.2-4: Projected 25-Year Revenue Sources	1.2-9
Figure 1.2-5: Total 25-Year Revenue Expenditures	1.2-9
Figure 1.2-6: Transportation 2030 Plan Corridors	1.2-11
Figure 1.2-7: Golden Gate Corridor	1.2-15
Figure 1.2-8: North Bay East-West Corridor	1.2-17
Figure 1.2-9: Napa Valley Corridor	1.2-19
Figure 1.2-10: Eastshore North Corridor	1.2-23
Figure 1.2-11: Delta Corridor	1.2-25
Figure 1.2-12: Diablo Corridor	1.2-27
Figure 1.2-13: Tri-Valley Corridor	1.2-29
Figure 1.2-14: Sunol Gateway Corridor	1.2-31
Figure 1.2-15: Eastshore South Corridor	1.2-33
Figure 1.2-16: Fremont-South Bay Corridor	1.2-35
Figure 1.2-17: Silicon Valley Corridor	1.2-39
Figure 1.2-18: Peninsula Corridor	1.2-43
Figure 1.2-19: San Francisco Corridor	1.2-45
Figure 1.2-20: Transbay Corridors	1.2-47

2.2 Air Quality

Figure 2.2-1: Exceedances of the National 1-Hour Ozone Standards in the Bay Area (1965-2003)	2.2-9
Figure 2.2-2: Exceedances of the State 1-Hour Ozone Standards in the Bay Area (1965-2003)	2.2-10
Figure 2.2-3: Bay Area Quality Management District Boundaries	2.2-13

2.3 Land Use, Housing, and Social Environment

Figure 2.3-1: Urbanized Land and Open Space	2.3-4
Figure 2.3-2: Existing Population Density (2000)	2.3-7
Figure 2.3-3: Proposed Population Density (2030)	2.3-8
Figure 2.3-4: Farmlands	2.3-13

2.5 Noise

Figure 2.5-1: Noise Effects on People	2.5-2
Figure 2.5-2: Noise and Land Use Compatibility Matrix Guidelines	2.5-12

2.6 Geology and Seismicity

Figure 2.6-1: Principal Geologic Faults	2.6-5
Figure 2.6-2: Areas Susceptible to Liquefaction in the Bay Area.....	2.6-9
Figure 2.6-3: Areas Susceptible to Landslides	2.6-10

2.7 Water Resources

Figure 2.7-1: Major Rivers, Creeks, and Other Water Bodies.....	2.7-3
Figure 2.7-2: Flood Hazard Area.....	2.7-5
Figure 2.7-3: Impaired Water Bodies	2.7-7

2.8 Biological Resources

Figure 2.8-1: Proposed Critical Habitat for the California Red-Legged Frog and Critical Habitat for the Bay Checkerspot Butterfly.....	2.8-7
Figure 2.8-2: Proposed Critical Habitat for the California Tiger Salamander	2.8-8

2.9 Visual Resources

Figure 2.9-1: State Designated and Eligible Scenic Highways	2.9-6
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Executive Summary

This Program Environmental Impact Report (EIR) has been prepared on behalf of the Metropolitan Transportation Commission (MTC) in accordance with the California Environmental Quality Act (CEQA). It analyzes a proposed 25-year regional transportation plan, known as the Transportation 2030 Plan, prepared by MTC. The proposed Transportation 2030 Plan represents the transportation policy and action statement of the MTC for how to approach the region's transportation needs over the next 25 years. The Transportation 2030 Plan proposes a set of future transportation projects and programs that can be implemented with available funding as well as identifying projects that could be considered if new funding is obtained. The Transportation 2030 Plan is intended to serve the region's mobility needs while addressing other important societal goals. The six main goals of the proposed Transportation 2030 Plan are:

- A Safe and Well Maintained System;
- A Reliable Commute;
- Access to Mobility;
- Livable Communities;
- Clean Air; and
- Efficient Freight Travel.

MTC recognizes that transportation decisions have a role in influencing the economic and community vitality of the Bay Area. The proposed Transportation 2030 Plan represents MTC's best effort to guide the region in the development of a transportation system that meets the Bay Area's mobility needs and achieves the Transportation 2030 goals. The proposed Transportation 2030 Plan addresses the Bay Area's ground transportation system. Development of regional airport and seaport plans occurs in separate processes.

INTRODUCTION

PURPOSE OF THE EIR

This environmental assessment of the proposed Transportation 2030 Plan—which may be referred to as the “Proposed Project,” throughout this document—fulfills the requirements of CEQA and CEQA Guidelines and is designed to inform decision-makers, responsible and trustee agencies, and the general public of the proposed Transportation 2030 Plan and the range of potential environmental impacts that could result from its implementation. This EIR recommends a set of measures to mitigate any significant adverse regional impacts identified. It also analyzes a range of alternatives to the proposed Transportation 2030 Plan.

SCOPE OF THE EIR

This EIR on the proposed Transportation 2030 Plan is a *program EIR* as defined in the CEQA Guidelines. Program EIRs can be used as the basic, general environmental assessment for an overall program of projects, which will be implemented through a series or group of later actions. While these later actions are not evaluated in this program EIR, individual projects will be evaluated in compliance with CEQA prior to project approval.

TRANSPORTATION 2030 PLAN EIR ORGANIZATION

This EIR is organized into four parts, as outlined below. This Executive Summary outlines the Proposed Project and alternatives, summarizes potential impacts and mitigation measures in Table S-1, and identifies the environmentally superior alternative.

Part One: Introduction and Project Description

Part One includes two chapters. Chapter 1.1 describes the relationship between the proposed Transportation 2030 Plan and the EIR and describes the basic legal requirements of a program level EIR. It discusses the level of analysis and the alternatives considered as well as how this EIR is related to other environmental documents and its intended uses. Chapter 1.2 introduces the purpose and objectives of the proposed Transportation 2030 Plan and summarizes the components of the Plan and key growth projections and assumptions used in the EIR analysis. This includes a discussion of the existing project setting and an outline of the Bay Area's projected population and employment growth rates and development patterns through the planning horizon to the year 2030. In addition, State and Federal legislation that guides the development of the Transportation 2030 Plan process is reviewed.

Part Two: Setting, Impacts, and Mitigation Measures

Part Two describes the existing environmental setting for each of the environmental issue areas analyzed in the EIR, the potential impacts that the proposed Transportation 2030 Plan would have on these areas, and measures to mitigate the potential significant impacts identified. Each impact area is analyzed in a separate chapter, organized as follows:

- Environmental setting;
- Criteria of significance;
- Method of analysis;
- Summary of impacts; and
- Impacts and mitigation measures.

Part Three: Alternatives and CEQA Required Conclusions

Chapter 3.1 includes a description of five alternatives to the proposed Transportation 2030 Plan and an assessment of their potential to achieve the objectives of the Transportation 2030 Plan while reducing potentially significant adverse regional environmental impacts. Part Three also

includes a comparison and summary of any potentially significant adverse regional environmental impacts that implementation of the alternatives would have for each of the environmental impact areas. As required by CEQA, an environmentally superior alternative is identified among the alternatives analyzed. Chapter 3.2 includes an assessment of the impacts of the proposed Transportation 2030 Plan in several subjects areas required by CEQA, including:

- Significant unavoidable impacts;
- Significant irreversible environmental changes;
- Cumulative impacts; and
- Impacts found to be not significant.

Part Four: Bibliography

All references and persons and agencies consulted are included in the bibliography.

Appendices

Appendix A includes the Notice of Preparation (NOP) of this EIR and the Responses to the NOP (comment letters), and Appendix B includes the Scoping Meeting Notice and Scoping Meeting Summary. Appendix C includes detailed project lists for the proposed Transportation 2030 Plan and the five alternatives studied in the EIR. Appendix D explains the Transportation Solutions Defense and Education Fund (TRANSDEF) Smart Growth alternative and Key Assumptions. Appendix E compares the Association of Bay Area Government's (ABAG's) *Projections 2002*, the "trends" forecast, and *Projections 2003*, the "smart growth" forecast. Finally, Appendix F is a Biological Resources Summary, including species lists and a detailed regulatory setting.

PROJECT AND ALTERNATIVES DESCRIPTION

This EIR evaluates the impacts of the proposed Transportation 2030 Plan and five transportation alternatives. By varying the overall composition of the highway, roadway, transit, and other projects evaluated, the Proposed Project and each alternative offer a different approach to carrying out the goals of the Transportation 2030 Plan. The TRANSDEF Smart Growth Alternative goes further by making different assumptions about future land use patterns and implementing pricing strategies for the region. A summary of the Proposed Project and the alternatives is provided below.

PROPOSED PROJECT – TRANSPORTATION 2030 PLAN

A detailed description of the proposed Transportation 2030 Plan is included in Chapter 1.2. The Transportation 2030 Plan represents a strategic investment plan to improve system performance for Bay Area travelers over the next 25 years and includes a set of highway, transit, local roadway, bicycle, and pedestrian projects identified through regional and local transportation planning processes. Key investments would focus on adequate maintenance, system efficiency and operations, and strategic expansion.

Similar to past long-range plans, the Transportation 2030 Plan is made up of two separate elements. The “financially constrained” element includes those transportation projects that would be funded through revenues projected to be reasonably available over the 25-year horizon of the plan. The more comprehensive “vision” element would identify illustrative transportation projects that would be funded through revenue measures that may become available in the future through either legislative action or voter mandate. The projects included in the vision element are largely identified by local transportation agencies and transit districts and would be funded by revenues sources such as new or reauthorized county transportation sales taxes, a BART property tax, a AC Transit special district tax, a High Speed Rail Bond, a regional vehicle registration fee, a Sonoma Marin Area Rail Transit (SMART) district tax, or High-Occupancy/Toll (HOT) Network revenues.

The Transportation 2030 Plan includes the HOT network identified in the Financially Constrained Plus HOT alternative, as well as the proposed sales tax projects evaluated in the Financially Constrained Plus Sales Tax alternative (see below).

ALTERNATIVES

A full description of the five alternatives is in Chapter 3.1. The alternatives are as follows:

- **No Project Alternative (Alternative 1)** – The No Project alternative, required by CEQA, addresses the effects of not implementing the Transportation 2030 Plan. This alternative includes a set of highway, transit, local roadway, bicycle, and pedestrian projects that are in advanced planning stages and slated to go forward since they already have full funding commitments. These projects are: (1) included in the federally required Transportation Improvement Program (TIP), a funding program for the next three years of project and programs in the Bay Area; (2) not yet in the TIP but are fully funded county transportation sales projects authorized by voters in Alameda, Contra Costa, Santa Clara, San Mateo, and San Francisco counties; and (3) not yet in the TIP but fully funded through the Regional Measure 2 Toll Bridge Program that was approved by Bay Area voters in March 2003. These projects are collectively referred to as “Committed Projects.”
- **Financially Constrained Transportation 2030 Plan Alternative (Alternative 2)** – This alternative consists of only the set of transportation projects and programs that would be funded through revenues projected to be reasonably available over the 25-year horizon of the Transportation 2030 Plan. This set of projects is known as the Financially Constrained element of the Plan. It does not include projects identified in the Vision Element of the proposed Transportation 2030 Plan. The key financial assumption governing the Financially Constrained element of the Plan is that existing sources of federal, state, or regional revenues are assumed to continue to 2030 with the exception of county transportation sales tax measures which, by law, must sunset. No new revenue sources that would require voter or legislative approval are assumed. Both “Committed” and “New Commitment” projects are included in this alternative.
- **Financially Constrained Transportation 2030 Plan Plus Sales Tax Plan Alternative (Alternative 3)** – This alternative includes the Financially Constrained element of the proposed Transportation 2030 Plan plus additional transportation projects and programs

identified in potential new or reauthorized county transportation sales tax measures proposed for San Mateo, Contra Costa, Marin, Solano and Sonoma counties (these projects are currently part of the Vision Element of the Proposed Project). These additional transportation projects have been defined through the respective county planning and public involvement processes, and the county sales tax measures have been placed on the November 2004 ballot for voter approval. Should these measures be approved, the transportation projects that become fully funded as a result of the new sales tax revenues will become part of the Financially Constrained element of the Transportation 2030 Plan when it is adopted in 2005.

- **Financially Constrained Transportation 2030 Plan Plus High-Occupancy/Toll (HOT) Network Alternative (Alternative 4)** – This alternative represents the Financially Constrained element plus the creation of a network of HOT lanes in the region (these projects are also currently part of the Vision Element of the Proposed Project). In this alternative, the Bay Area's existing High-Occupancy-Vehicle (HOV) lane system of 300 freeway lane miles, which saves time for vehicles with two or more occupants, would be converted to HOT lanes. Carpools, vanpools, and transit vehicles would continue to have free passage in the HOT lanes, but other motorists would pay a fee to use them. The HOT network would consist of 800 miles of HOT lanes on the Bay Area's freeways, an additional 500 freeway lane miles over existing conditions (2000).
- **TRANSDEF Smart Growth Alternative (Alternative 5)** – This alternative is supplied by TRANSDEF, a transportation advocacy organization, according to the Settlement Agreement and Release entered into by TRANSDEF, Citizens for Better Environment (CBE), Bay Area Air Quality Management District, and MTC in March 2004. Its purpose is to test the effectiveness of a planning strategy of accommodating regional growth by limiting roadway capacity and directing more potential growth into infill and transit-supportive areas, avoiding greenfield development, and implementing pricing strategies to make driving more expensive and transit more attractive. Therefore, this alternative includes a different mix of projects and programs, as well as a different set of land use distribution and pricing assumptions, relative to the Proposed Project and other alternatives.

EIR APPROACH

LEVEL OF ANALYSIS

This EIR focuses primarily on regional impacts, but also addresses transportation corridor impacts for a number of the environmental impact areas. This approach reflects the organization of the Transportation 2030 Plan which presents information and transportation investments in a corridor format. MTC has defined 14 multi-modal travel corridors in the Transportation 2030 Plan in recognition of their primacy as determiners of regional travel patterns. As a program level EIR, individual project impacts are not addressed unless they are found to be regionally significant.

KEY ASSUMPTIONS

The underlying land use assumptions for the Proposed Project and all the financially constrained alternatives are ABAG's *Projections 2003*, which represent the outcome of ABAG's recent regional smart growth planning project (called "Smart Growth Project") and assume the Bay Area will provide more housing opportunities near transit and also accommodate a larger share of future Bay Area workers within the nine Bay Area counties. In contrast, the TRANSDEF Smart Growth alternative uses its own set of land use assumptions patterned after the Network of Neighborhoods Alternative, one of three conceptual land use patterns initially considered in ABAG's Smart Growth Project. Additional details are provided about the TRANSDEF alternative in Chapter 3.1 and in Appendix D.

CUMULATIVE IMPACT ASSUMPTIONS

The term "cumulative impact", as defined in the CEQA Guidelines (§15355), "refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Where possible, this EIR distinguishes between the impacts of the Transportation 2030 Plan investment program as a whole and the independent impacts of forecast population and employment growth, which the projects and programs of the proposed Transportation 2030 Plan will serve. However, the air quality and transportation analyses evaluate the effects of the Proposed Project assuming projected population and employment growth. Thus, the impacts of these two issue areas are identical to the cumulative conditions. MTC assumes the regional growth estimates based upon the Association of Bay Area Governments' (ABAG) *Projections 2003*. Some impacts on the environment are not under the influence of MTC and occur for reasons unrelated to its Transportation 2030 Plan investment.

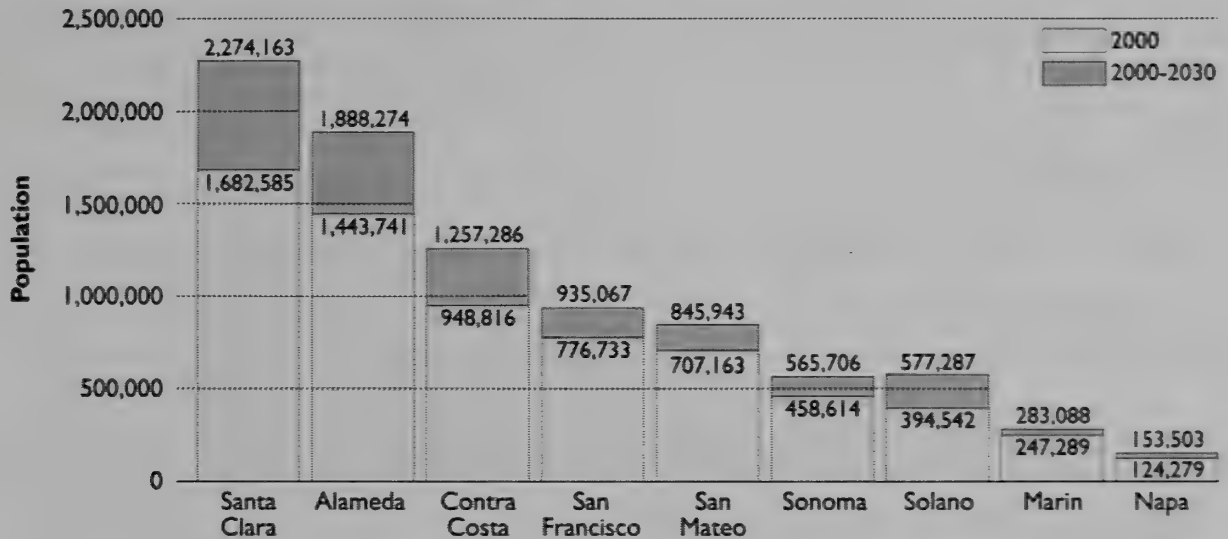
TRANSPORTATION 2030 PLAN BACKGROUND

With a population of approximately seven million in the year 2000, the San Francisco Bay Area is the fifth most populous metropolitan area in the United States behind New York, Los Angeles, Chicago, and Washington D.C. (U.S. Census 2000). The region consists of nine counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. According to ABAG's *Projections 2003*, only about 18 percent of the region's approximately 4,757,251 acres is developed. Seventy-two percent of this developed land is in residential use. The Bay Area transportation network includes interstate and state freeways, county expressways, local streets and roads, bike paths, sidewalks, and a wide assortment of transit technologies (heavy rail, light rail, intercity rail, buses, trolleys and ferries).

PROJECTED GROWTH

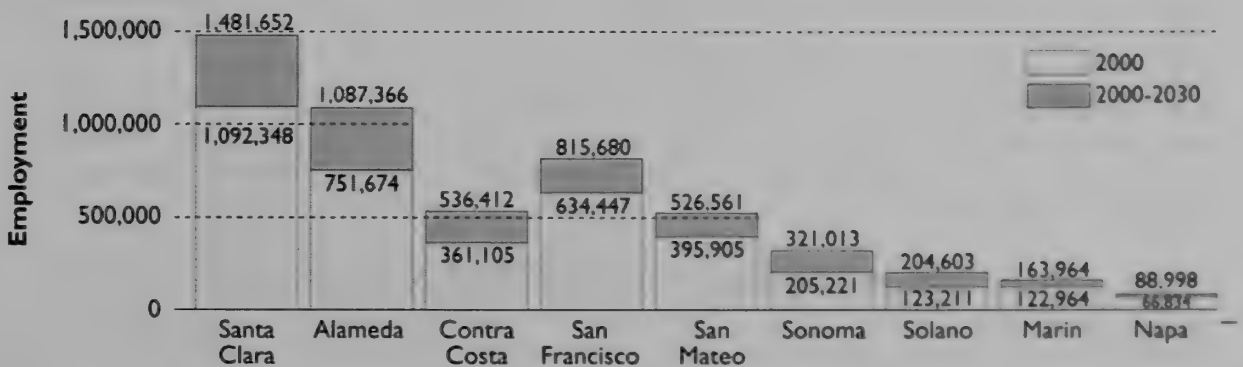
According to ABAG's *Projections 2003*, the five most populated counties in 2000 in descending order were Santa Clara, Alameda, Contra Costa, San Francisco, and San Mateo, accounting for 82 percent of the region's population. ABAG projects that the Bay Area will add nearly 2 million new residents between 2000 and 2030. The same five counties will still make up 82 percent of the region's residents in 2030. Figure S-1 illustrates this trend. Population continues to grow much more quickly in suburban areas than urban areas as development expands outwards. Moreover, as a result of the shortage of affordable housing in the Bay Area, growth from the Bay Area is spilling over to outlying counties, such as San Benito, San Joaquin, Stanislaus, and Merced.

Figure S-1: Population Growth by County (2000-2030)



With respect to employment, the top five counties were Santa Clara, Alameda, San Francisco, San Mateo, and Contra Costa, accounting for 80 percent of the Bay Area jobs (2000). ABAG estimates that approximately 1.5 million new jobs will be created in the region between 2000 and 2030. The five most populous counties will also account for 85 percent of the region's jobs at the end of this period. While the top three counties will rank the same, Contra Costa County will surpass San Mateo in 2030. Bay Area employment trends are shown in Figure S-2.

Figure S-2: Employment Growth by County (2000-2030)



The analysis emphasizes the impacts of the proposed Transportation 2030 Plan as a complete program, rather than as detailed analysis of the individual transportation improvements in the Plan. Individual improvements must still comply with the requirements of CEQA. Detailed analysis of the transportation improvements proposed in the Transportation 2030 Plan would be the responsibility of the agencies approving those projects.

As required by CEQA, this EIR identifies three types of impacts:

- Short-term impacts;
- Long-term impacts; and
- Cumulative impacts.

In some instances the cumulative impacts outlined in this EIR do not so much result from the transportation improvements in the Transportation 2030 Plan as from the growth these projects are intended to serve. Table S-1 summarizes the significant impacts and recommended mitigation measures identified in this EIR. The impacts are organized by environmental impact area in the order in which they appear in Part Two.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines require each EIR to identify the environmentally superior alternative among the alternatives analyzed. If the No Project alternative is identified as the environmentally superior alternative, then the EIR must identify another alternative as environmentally superior among the alternatives analyzed.

There are tradeoffs among the various issue areas analyzed for the alternatives. The alternatives also would result in varying degrees of achieving the Proposed Project objectives.

Assuming equal importance for all issue areas, the No Project alternative is the environmentally superior alternative, mainly because it involves the least amount of new construction activity and hence fewer environmental effects, particularly in the resource areas of energy, water, biology, visual, cultural, land use and growth inducement. The No Project alternative, however, cannot be selected as the environmentally superior alternative according to CEQA and would not achieve the proposed project objectives. The No Project alternative is the least preferred alternative for the issue of transportation.

If the No Project alternative is excluded, the TRANSDEF Smart Growth alternative is the next environmentally superior alternative, if all impact areas are artificially given equal weight. The TRANSDEF Smart Growth Alternative offers advantages due to the fact that it would result in less new construction and associated potential impacts on energy, water, biological, visual and cultural resources. However, policy makers may value some issue areas as more important than others.

Despite the relatively favorable ratings for a number of the impact areas for the TRANSDEF Smart Growth alternative, there are several unanswered questions about the feasibility of this alternative and its ability to meet the project objectives. Choosing one of the alternatives over the other will require policy makers to determine project feasibility and to judge the relative importance and magnitude of individual impacts.

AREAS OF KNOWN CONTROVERSY

The proposed Transportation 2030 Plan include concerns raised about:

1. How to broaden the reach of the “Access to Mobility” goal to focus not only on the mobility needs of low-income populations but also the mobility need of the disabled and fast-growing seniors population in the Bay Area;
2. What specific recommendations and funding strategies should be implemented to address these challenging mobility needs; and
3. How drivers with low-incomes would not be able to afford to use the proposed high-occupancy/toll lanes.

Controversy also exists around specific transportation projects included in the Transportation 2030 Plan such as the BART extension to Santa Clara County, Caldecott Tunnel fourth bore, Transbay Terminal development, Jamieson Canyon widening, and Bay Bridge funding shortfalls. Additionally, the TRANSDEF Smart Growth alternative could generate controversy given the scope of the proposed changes in existing land use plans, transportation costs, and projects.

Table S-1: Summary of Impacts and Mitigation

Impact	Mitigation Measures	Significance After Mitigation	
Transportation			
2.1-1	The Proposed Project provides a slight reduction in average travel time for work trips (2 percent), non-work trips (1 percent), personal trips (1 percent), and truck trips (1 percent) when compared to the No Project.	None. There are no significant adverse effects on average travel time per trip due to implementation of the proposed Transportation 2030 Plan.	No Adverse Impact
2.1-2	The Proposed Project provides improved accessibility to jobs by auto and transit modes for all time intervals of 15, 30 and 45 minutes when compared to the No Project.	None. There are no significant adverse effects on accessibility to jobs by auto or transit due to implementation of the proposed Transportation 2030 Plan.	No Adverse Impact Beneficial
2.1-3	The Proposed Project reduces the average weekday vehicle trips for all nine counties when compared to the No Project.	None. There are no significant adverse effects on the number of daily vehicle trips due to implementation of the proposed Transportation 2030 Plan.	No Adverse Impact
2.1-4	The Proposed Project provides an overall reduction of 20 percent in vehicle miles traveled at Level of Service F for both freeways and expressways and arterial facilities when compared to the No Project.	None. There are no significant adverse effects on vehicle miles traveled at LOS F due to implementation of the proposed Transportation 2030 Plan.	No Adverse Impact
Air Quality			
2.2-1	The Proposed Project would result in reductions in ROG, NO _x and CO emissions.	None required.	Beneficial
2.2-2	Emissions impacts of the Proposed Project for all criteria pollutants (ROG, NO _x , CO, PM ₁₀ and PM _{2.5}) are lower than the No Project's emissions.	No mitigation measures are required as there is no significant impact from the implementation of the proposed Transportation 2030 Plan.	Less than significant
2.2-3	PM ₁₀ and PM _{2.5} emissions are projected to increase substantially over existing conditions (2000) due to projected cumulative regional growth and the attendant increase in travel.	2.2(a) If attainment plans are required for PM ₁₀ and PM _{2.5} in the future, the BAAQMD, MTC, and ABAG (co-lead agencies for air quality planning) will identify the magnitude of reduction required from motor vehicles as well as appropriate control measures to address PM from on road dust and other sources. The extent of the reduction potential is not presently known; therefore, it is not possible to determine whether the impact is partially or fully mitigable.	Significant, potentially mitigable, but strategies not defined.

Table S-1: Summary of Impacts and Mitigation

Impact		Mitigation Measures	Significance After Mitigation
Land Use, Housing, and Social Environment			
2.3-1	Implementation of the proposed Transportation 2030 Plan could convert farmland, including prime agricultural land designated by the State of California, to transportation use.	<p>2.3(a) Project sponsors shall commit to mitigation measures at the time of certification of their project environmental document that would minimize or eliminate conversion of farmland. Typical mitigation measures are listed in Chapter 2.3.</p> <p>The extent of this impact will depend on the final design of each transportation improvement and on the project-specific analysis required by CEQA to determine the importance of the farmland to be converted.</p>	Significant
2.3-2	Implementation of the Proposed Transportation 2030 Plan could disrupt or displace existing land uses, neighborhoods, and communities in the short term.	<p>2.3(b) Project sponsors shall commit to site-specific mitigation measures at the time of certification of their project environmental document that would minimize or eliminate short term (often construction-related) disruption or displacement of existing land uses, specifically residential, commercial, or urban open space. Typical mitigation measures are listed in Chapter 2.3.</p> <p>The extent of this impact will depend on the final design and the phasing of implementation.</p>	Significant
2.3-3	Transportation improvements in the proposed Transportation 2030 Plan have the potential to cause permanent community disruption.	<p>2.3(c) Project sponsors shall commit to site-specific mitigation measures at the time of certification of their project environmental document. Mitigation measures will be identified to the extent feasible to minimize impacts. Typical measures are listed in Chapter 2.3.</p> <p>2.3(d) MTC should encourage project sponsors through EIR comments to consider design elements in their projects that would maintain or enhance neighborhood accessibility.</p> <p>2.3(e) MTC shall continue to support locally sponsored traffic calming and alternative transportation initiatives such as paths, trails, overcrossings, and bicycle plans that foster improved neighborhoods and community connections.</p>	Less than significant
2.3-4	Implementation of the proposed Transportation 2030 Plan may conflict with existing local General Plans.	None required.	Less than significant

Table S-1: Summary of Impacts and Mitigation

Impact	Mitigation Measures	Significance After Mitigation
<p>2.3-5 Concurrent implementation of the proposed Transportation 2030 Plan and forecast development of residential and employment land uses would result in expansion of urban areas and changes in land use and the character of neighborhoods and districts in the Bay Area.</p>	<p>2.3(f) MTC shall continue to participate in and promote the efforts of the Regional Agencies Smart Growth Initiative, which is intended to coordinate regional smart growth efforts to use land more efficiently, optimize transportation and other infrastructure investments, preserve open space, etc. In this way, MTC can pursue the enhanced coordination of local land use plans and investments in the proposed Transportation 2030 Plan.</p>	<p>Significant</p>
<p>Energy</p>	<p>2.4-1 The implementation of the Proposed Project is likely to substantially increase the consumption of direct and indirect energy types.</p>	<p>Significant</p>
	<p>Mitigation of these impacts is largely beyond the authority of MTC.</p> <p>2.4(a) Project implementation agencies shall undertake project specific review of energy impacts as part of project specific environmental review. For any identified impacts, appropriate mitigation measures shall be identified. The project implementation agencies or local jurisdictions shall be responsible for ensuring adherence to the mitigation measures. MTC shall be provided with documentation of compliance with mitigation measures.</p> <p>2.4(b) Project implementation agencies shall require projects, that are part of the proposed Transportation 2030 Plan, that require construction, to evaluate the energy demand so that suggestions could be made requiring the least energy-intensive methods of construction. To reduce energy expended, the construction contractor could implement the mitigation measures found in Chapter 2.4.</p>	
<p>Noise</p>	<p>2.5-1 Construction of the transportation improvements proposed in the Transportation 2030 Plan would have short-term noise impacts on surrounding areas.</p>	<p>Less than significant</p>
	<p>2.5(a) Project sponsors shall commit to mitigation measures at the time of certification of each environmental document and at the time of project approval. Construction noise mitigation normally required by Caltrans' <i>Standard Specifications and Standard Special Provisions</i>, as well as local city and county ordinances shall be implemented for individual Transportation 2030 Plan projects that include physical construction activities. Construction mitigation measures generally limit construction activities to times when construction noise would have the least effect on adjacent land uses, and would require such measures as properly muffling equipment noise, locating equipment as far from sensitive receptors as possible, and turning off equipment when not in use. Some jurisdictions</p>	

Table S-1: Summary of Impacts and Mitigation

Impact	Mitigation Measures	Significance After Mitigation
2.5-2 Transportation improvements proposed as part of the Transportation 2030 Plan could result in noise levels that approach or exceed the FHWA and FTA Noise Abatement Criteria or that could cause noise levels to increase by 3 dBA or more.	<p>may also have property line or other noise level limits that must be adhered to during construction.</p> <p>2.5(b) Construction of sound walls adjacent to new or improved roads or transit lines. It is likely that FHWA noise abatement criteria would be met if sound walls are included along the identified projects. Where the proposed Transportation 2030 Plan would improve existing roadways, sound walls would also result in a reduction of overall sound levels, even considering potential increases from road widenings and additional traffic. As a result, the implementation of this mitigation measure can avoid project noise impacts and reduce existing noise levels along a number of heavily-traveled corridors in the region.</p> <p>2.5(c) Adjustments to proposed roadway or transit alignments to reduce noise levels in noise sensitive areas. For example, depressed roadway alignments can effectively reduce noise levels in nearby areas.</p> <p>2.5(d) Insulation of buildings or construction of noise barriers around sensitive receptor properties.</p> <ul style="list-style-type: none"> -Vibration isolation of track segments. -Use of local land use policies by local agencies to guide the location of noise sensitive uses to sites away from roadways and rail corridors. <p>As noted, the implementation of noise mitigation will, in some cases, more than offset the noise impacts of a particular transportation improvement. As a result, the proposed Transportation 2030 Plan has the potential to bring noise abatement benefits to communities that currently experience noise problems resulting from existing traffic.</p>	Less than significant
2.5-3 Forecast population and employment growth that would be served by transportation improvements in the Transportation 2030 Plan will result in increased traffic volumes in individual counties in the Bay Area and could, in turn, increase noise levels along some of the travel corridors in those counties.	<p>Except where future transportation improvements create the need for noise mitigation, increased noise in other parts of the Bay Area would not necessarily be mitigated unless communities and local transportation authorities: 1) determine that a noise problem exists and that the problem is one of a perceptible nature, and 2) identify local or other transportation funds not currently included in the proposed T2030 Plan to provide the necessary mitigation. In many corridors, the projected traffic increases are unlikely to produce perceptible increases in noise since there may not be any sensitive receptors nearby and the increased volumes would not trigger a significant impact.</p>	Significant

Table S-1: Summary of Impacts and Mitigation

Impact	Mitigation Measures	Significance After Mitigation
Geology		
2.6-1 Seismic events could damage existing and proposed transportation infrastructure through surface rupture, ground shaking, liquefaction, landslides and tsunamis	<p>2.6(a) Project implementation agencies shall undertake project specific review of seismic impacts as part of project specific environmental review. For any identified impacts, appropriate mitigation measures shall be identified to minimize or eliminate any significant impacts on water resources. The following mitigation measures shall be included in project-level analysis as appropriate for proposed new transportation improvements. The project proponent or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures outlined in the bulleted list in Chapter 2.6 prior to construction.</p> <p>Although most new structures would be constructed to survive a strong earthquake without collapse, it is likely that some segments of roads and transit facilities would be damaged. The damage from a major seismic event could be significant.</p>	Significant
2.6-2 Highway and rail construction, under the proposed Transportation 2030 Plan, could require significant earthwork and road cuts, which could increase short-term and long term soil erosion potential and slope failure.	<p>2.6(b) Implementing agencies shall ensure that projects employ Best Management Practices to reduce soil erosion by water and wind. These could include temporary cover of exposed, engineered slopes, or silt fencing. All construction activities and design criteria shall comply with applicable codes and requirements of the 1997 Uniform Building Code with California additions (Title 22), and applicable Caltrans construction and grading ordinances.</p> <p>2.6(c) Implementing agencies shall ensure that project designs provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion. Design features shall include measures to reduce erosion from stormwater. Road cuts shall be designed to maximize the potential for revegetation.</p>	Less than significant
2.6-3 Projects built on highly compressible or expansive soils could become damaged and weakened over time.	<p>2.6(d) Implementing agencies shall ensure that geotechnical investigations be conducted by qualified professionals (registered civil and geotechnical engineers, registered engineering geologists) to identify the potential for differential settlement and expansive soils. Recommended corrective measures, such as structural reinforcement and replacing soil with engineered fill, shall be incorporated into project designs.</p>	Less than significant

Table S-1: Summary of Impacts and Mitigation

Impact	Mitigation Measures	Significance After Mitigation
<p>2.6-4 The projected population increase in the Bay Area will result in increased travel on all modes of transportation. This would result in an increased risk of exposure of people and property to the potentially damaging effects of strong seismic shaking, fault rupture, seismically-induced ground failure and slope instability.</p>	<p>Since the cumulative impacts from the Transportation 2030 Plan are essentially the same as the direct and short-term impacts (exposing travelers to geologic hazards), the mitigation measures for this impact would be the same as described in measure 2.6(a).</p>	<p>Less than significant</p>
Water Resources		
<p>2.7-1 Construction of the proposed transportation improvements in the Transportation 2030 Plan could adversely affect water quality and drainage patterns in the short term due to erosion and sedimentation.</p>	<p>2.7(a) Local permitting agencies shall require preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), in accordance with the SWRCB's General Construction Permit. The SWPPP shall also be consistent with the Manual of Standards for Erosion and Sedimentation Control by the Association of Bay Area Governments, the California Stormwater Quality Association (CASQA), Stormwater Best Management Practice Handbook for Construction, policies and recommendations of the local urban runoff program (city and/or county), and the recommendations of the RWQCB. Implementation of the SWPPP shall be enforced by inspecting agencies during the construction period via appropriate options such as citations, fines, and stop-work orders. See bulleted list in Chapter 2.7 for typical components.</p>	<p>Less than significant</p>
<p>2.7-2 The transportation improvements in the Transportation 2030 Plan could adversely affect water resources in the long term by reducing permeable surfaces, which could result in additional runoff and erosion, degrade water quality in receiving waters, decrease groundwater recharge, or alter drainage patterns.</p>	<p>2.7(b) Local permitting agencies shall require projects to comply with design guidelines established in the Bay Area Stormwater Management Agencies Association's (BASMAA) <i>Start at the Source Design Guidance Manual for Stormwater Quality Protection</i> and the California Storm Water Best Management Practice Handbook for New Development and Redevelopment to minimize both increases in the volume and rate of stormwater runoff, and the amount of pollutants entering the storm drain system. Typical mitigation measures are listed in Chapter 2.7.</p>	<p>Less than significant</p>
<p>2.7-3 Forecast urban development served by the Transportation 2030 Plan, plus new public and private infrastructure improvements to accommodate future urban development, could degrade regional water quality, reduce groundwater recharge, or result in increased flooding.</p>	<p>As the cumulative impacts of the transportation improvements in the Transportation 2030 Plan are the same as the direct impacts listed above, the mitigation measures for this impact would be the same as Measures 2.7(a) and 2.7(b).</p>	<p>Less than significant</p>

Table S-1: Summary of Impacts and Mitigation

Impact	Mitigation Measures	Significance After Mitigation
Biological Resources		
2.8-1 Transportation improvements in the Transportation 2030 Plan could adversely affect wetlands and aquatic resources.	<p>In accordance with guidelines of the U.S. Army Corps of Engineers (Corps), the U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service (USFWS), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Game (CDFG), a goal of “no net loss” of wetland acreage and value will be implemented, wherever possible, through avoidance of the resource.</p> <p>2.8(a) In keeping with the no net loss policy, project designs shall be reconfigured, whenever possible, to avoid sensitive wetlands and avoid disturbances to wetland and riparian corridors. Projects shall minimize ground disturbances and construction footprints near such areas to the extent practicable.</p> <p>Mitigation for wetland impacts due to the transportation projects would be based on project-specific wetland mitigation plans, subject to approval by the Corps, and possibly by the USFWS, RWQCB, and CDFG as well.</p> <p>Mitigation for placing fill in wetlands would be partially achieved by avoiding wetlands and by minimizing fill where avoidance is not feasible. Individual projects shall minimize the use of in-water construction methods to reduce impacts to wetlands, and only do so with express permit approval from the appropriate resources agencies.</p> <p>Avoidance, compensatory restoration, or creation of new wetland communities to offset the conversion of wetlands for proposed transportation improvements would achieve “no net loss” of wetland acreage and value.</p>	Less than significant
2.8-2 Transportation improvements in the Transportation 2030 Plan could cause substantial disturbance of biologically unique or sensitive communities that are regulated by CDFG.	<p>2.8(b) In accordance with CDFG guidelines, project sponsors shall make an effort to minimize impacts on sensitive plant communities, especially riparian habitats, when designing and permitting projects. Where applicable, projects shall conform to the provisions of special area management or restoration plans such as the Suisun Marsh Protection Plan, which outline specific measures to protect sensitive vegetation communities.</p>	Less than significant

Table S-1: Summary of Impacts and Mitigation

<i>Impact</i>	<i>Mitigation Measures</i>	<i>Significance After Mitigation</i>
2.8-3 Proposed transportation improvements in the Transportation 2030 Plan could have deleterious impacts on special-status plant and/or wildlife species identified as endangered, candidate, and/or special status by the CDFG or USFWS.	2.8(c) At the time of project certification, project sponsors shall agree to comply with mitigation measures to protect special-status plant and wildlife species. This requirement obligates project sponsors to implement measures that avoid, minimize, and compensate for significant impacts on special-status species and their habitat. Typical measures that may be included by project sponsors are listed in Chapter 2.8.	Significant
2.8-4 Proposed transportation improvements in the Transportation 2030 Plan could have deleterious impacts on proposed or designated critical habitats.	Specific projects that may be located within critical habitat areas will be subject to established protocols for surveys and protective measures. No further mitigation measures are required.	Less than significant
2.8-5 Construction activities could adversely affect nonlisted nesting raptor species.	2.8(d) At the time of project certification, project sponsors shall agree to comply with mitigation measures to avoid and minimize impacts to nesting raptors. Typical measures that may be included by project sponsors are listed in Chapter 2.8. Implementing the mitigation measures would allow early recognition of nesting raptors in and near work areas and avoid impacts to these species.	Less than significant
2.8-6 Construction activities could impact nonlisted nesting birds species protected under the federal Migratory Bird Treaty Act.	2.8(e) Concurrent with surveys described in Mitigation Measure 2.8(d), surveys shall be performed for migratory birds listed in the federal List of Migratory Birds (50 Code of Federal Regulations, Chapter 1, Part 10 §10.13). More than 500 native and migratory bird species are protected by this statute. If protected breeding birds are detected during surveys, a buffer zone, depending upon the species identified, shall be established around active nesting sites in coordination with CDFG.	Less than significant
2.8-7 Implementation of the Transportation 2030 Plan could impact adopted resource protection or conservation plans.	None required.	No adverse impact
2.8-8 Forecast urban development that would be served by transportation improvements in the Transportation 2030 Plan, combined with improved regional mobility provided by the Plan, could contribute to the conversion of	As the cumulative impacts of the transportation improvements in the Transportation 2030 Plan are the same as the direct impacts listed above, the mitigation measures for this impact would also be the same.	Significant

Table S-1: Summary of Impacts and Mitigation

Impact	Mitigation Measures	Significance After Mitigation
undeveloped land to urban uses, resulting in the removal or fragmentation of habitat area.		
Visual Resources		
2.9-1 Construction of new and expanded transportation projects could affect visual resources during the period of construction.	2.9(a) Typical mitigation measures used to minimize short term visual impacts include reducing the visibility of construction staging areas where possible and fencing and screening these areas with low contrast materials consistent with the surrounding environment. Graded slopes and exposed earth surfaces should be revegetated at the earliest opportunity. 2.9(b) Project sponsors shall commit to mitigation measures at the time of certification of their project environmental document. These commitments obligate project sponsors to implement measures that would minimize or eliminate any significant visual impacts. Typical mitigation measures that could be considered by project sponsors are listed in Chapter 2.9.	Less than significant
2.9-2 Construction of certain improvements in the proposed Transportation 2030 Plan could affect visual resources by adding or expanding transportation facilities in rural or open space areas, blocking views from adjoining areas, blocking or intruding into important vistas along roadways, and changing the scale, character, and quality of designated or eligible Scenic Highways.	2.9(c) Transportation project sponsors should consider mitigation measures listed in Chapter 2.9 to minimize significant visual impacts. This impact would likely remain significant, depending upon the extent, design, and specific location of the soundwalls.	Significant
2.9-3 The construction of soundwalls along freeways and arterials, where they are used to reduce noise levels in surrounding residential areas, could significantly alter views from the road reducing visual interest and sense of place while also limiting views and sunlight from adjoining areas.		
2.9-4 Forecast urban development that would be served by transportation improvements in the proposed Transportation 2030 Plan could significantly change the visual character of many areas in the region, especially where development would occur on visually prominent hillsides or in existing rural or open space lands.	Local land use agencies are responsible for the approval of forecast urban development. These agencies should apply development standards and guidelines to maintain compatibility with surrounding natural areas, including site coverage, building height and massing, building materials and color, landscaping, site grading, etc., in visually sensitive sites areas. The cumulative effect of forecast development would be to alter the visual character of many parts of the Bay Area over the next 25 years.	Significant

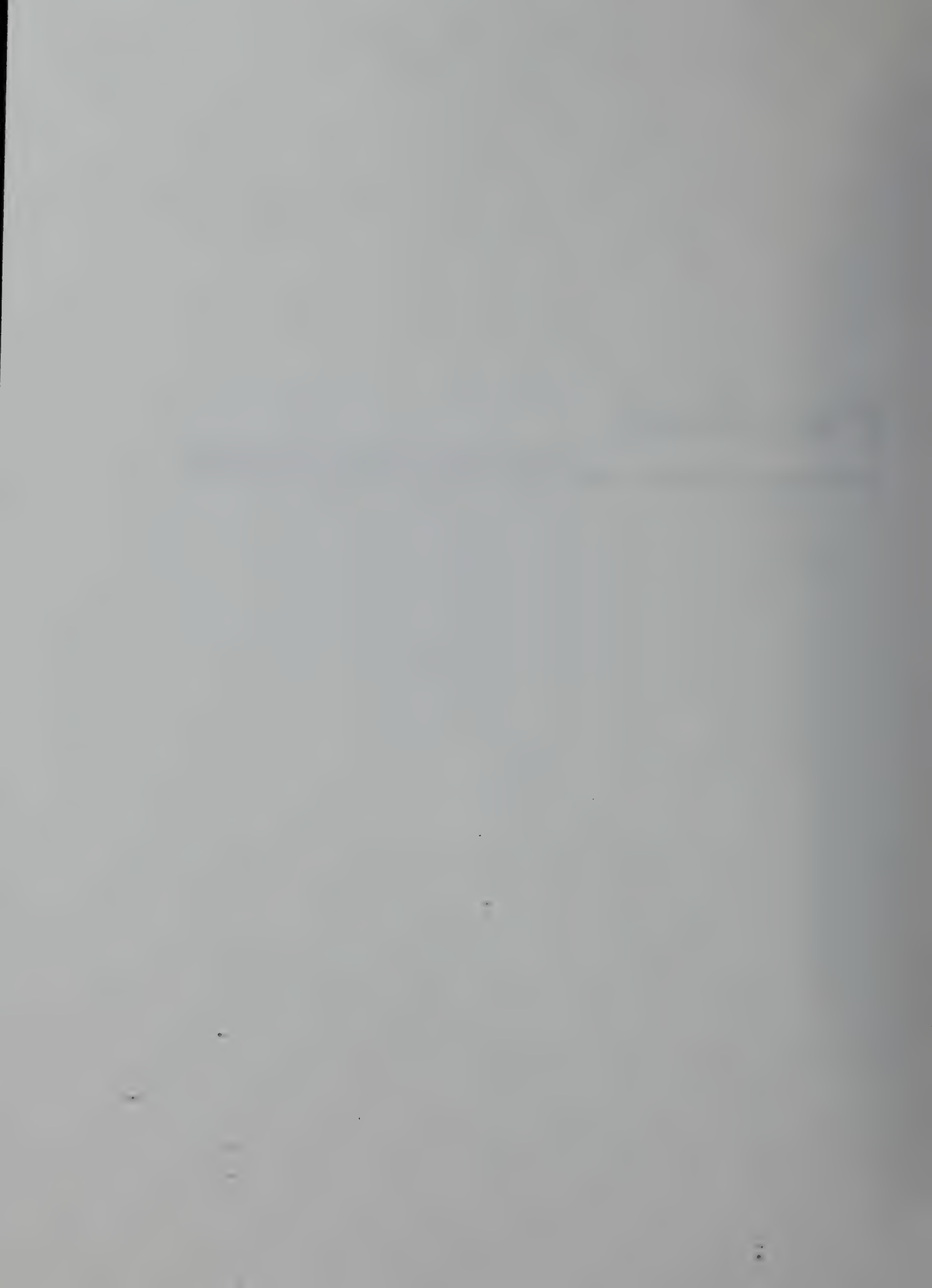
Table S-1: Summary of Impacts and Mitigation

Impact	Mitigation Measures	Significance After Mitigation
Cultural Resources		
2.10-1 Individual transportation improvements in the proposed Transportation 2030 Plan that involve ground disturbing activities have the potential to disturb, destroy, or significantly affect cultural resources.	2.10(a) Project sponsors shall commit to mitigation measures at the time of certification of their project environmental document. These commitments obligate project sponsors to implement measures that would minimize or eliminate any significant impacts on cultural resources. Typical mitigation measures that can be considered by project sponsors are listed in Chapter 2.10.	Less than significant
2.10-2 Forecast urban development that would be served by transportation improvements in the proposed Transportation 2030 Plan could have the potential to disturb, destroy, or significantly affect cultural resources.	2.10(a) see above.	Less than significant

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Part One

Introduction and Project Description



I.I Introduction, Organization, and Study Approach

This program Environmental Impact Report (EIR) has been prepared on behalf of the Metropolitan Transportation Commission (MTC) in accordance with the California Environmental Quality Act (CEQA). This EIR analyzes the potential significant impacts of the adoption and implementation of the proposed Transportation 2030 Plan, which is the update to the 2001 Regional Transportation Plan (RTP).

PURPOSE OF THE EIR

MTC is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area. Created by the State Legislature in 1970, MTC functions as both the regional transportation planning agency (RTPA)—a state designation—and for federal purposes as the region's metropolitan planning organization (MPO). As required by state and federal law, MTC adopts an updated RTP no less frequently than every three years (Government Code §65080 et. seq.). The RTP must span a period of at least 20 years into the future. The planning horizon of the Transportation 2030 Plan will be to the year 2030.

The last major update of the RTP was adopted by MTC in December 2001. A program EIR for the 2001 RTP was certified by MTC in December 2001. In July 2002, a federal district court issued an order interpreting that federal Transportation Control Measure (TCM) 2 in the Bay Area's State Implementation Plan (SIP) requires an increase of transit ridership of 15 percent by 2006. MTC appealed that decision. However, during the pendency of the appeal, MTC was required by the order to amend the RTP to identify the projects in the RTP that would help the region reach such an increase in ridership (as stipulated in the Federal District Court Order Granting Injunctive Relief, dated July 19, 2002). In response, MTC amended the RTP in November 2002, specifying how MTC would achieve the implementation of TCM 2 as interpreted by the district court. Neither an addendum nor supplemental EIR was needed for the November 2002 RTP amendment since it was merely an explanatory addition. The district court's order was subsequently completely overturned by the federal ninth circuit court of appeals in April 2004. As a result, neither the proposed Transportation 2030 Plan nor its EIR include the November 2002 supplement.

The proposed Transportation 2030 Plan is a program of related actions designed to coordinate and manage future transportation improvements among the various cities, counties, transit agencies, and other public agencies operating within the region. Federal planning regulations require that the RTP be financially constrained to the projected transportation revenues that will be available over the planning period. Federal regulations also permit the RTP to include a set of illustrative transportation projects that would have benefits if additional revenues were secured in the future. This Plan and EIR address both sets of projects. Any transportation project receiving federal or state transportation funds must be included in the RTP. The project sponsors of individual projects must prepare a California Environmental Quality Act (CEQA) and/or

National Environmental Protection Act (NEPA) document as appropriate prior to MTC approval of the project for its consistency with the RTP. The specific projects included in the proposed Transportation 2030 Plan are described in Chapter 1.2 of this EIR.

While MTC, along with other regional agencies, prepares Regional Airport and Seaport plans, the projects in these advisory plans do not require MTC funding or approvals. As such, these plans are separate from the proposed Transportation 2030 Plan and are subject to separate environmental review processes. Therefore, this EIR does not analyze the environmental effects of these plans.

This environmental assessment of the proposed Transportation 2030 Plan fulfills the requirements of CEQA and is designed to inform decision-makers, responsible and trustee agencies, and the general public of the proposed action and the range of potential environmental impacts of that action. The EIR recommends a set of measures to mitigate any significant adverse regional impacts identified in the analysis of the proposed Transportation 2030 Plan. The final EIR will include a Mitigation Monitoring Program that identifies who will be responsible for implementing the measures. This EIR also analyzes alternatives to the proposed action. The EIR process provides an opportunity to identify environmental benefits of the proposed Transportation 2030 Plan that might balance some potentially significant adverse environmental impacts. As the lead agency for preparing this EIR, MTC will use it in its review of the proposed Transportation 2030 Plan, prior to taking action on the Plan.

This EIR represents the best effort to evaluate the potential environmental effects of the proposed Transportation 2030 Plan given its long-term planning horizon. It can be anticipated that conditions will change; however, the assumptions used are the best available at the time of preparation and reflect existing knowledge of patterns of development, travel patterns, mode of travel, and technological factors.

EIR SCOPE

The proposed Transportation 2030 Plan EIR is a program EIR, as defined in the CEQA Guidelines. Section 15168 of the CEQA Guidelines defines a program EIR as: “[An EIR addressing a] series of actions that can be characterized as one large project and are related either: (1) Geographically; (2) A[s] logical parts in the chain of contemplated actions; (3) In connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental impacts which can be mitigated in similar ways.”

Program EIRs can be used as the basic, general environmental assessment for an overall program of projects developed over the 25 year planning horizon. A program EIR has several advantages. First, it provides a basic reference document to avoid unnecessary repetition of facts or analysis in subsequent project-specific assessments. Second, it allows the lead agency to look at the broad, regional impacts of a program of actions before its adoption and eliminates redundant or contradictory approaches to the consideration of regional and cumulative impacts.

As a programmatic document, this EIR presents a region-wide assessment of the potential impacts of the Proposed Transportation 2030 Plan. Where appropriate, it also provides a corridor-by-corridor or county-by-county assessment. It does not evaluate project-specific impacts of individual projects, all of which are required to comply with CEQA.

As provided for in the CEQA Guidelines, the focus of this EIR is on those specific environmental issues and concerns identified as possibly significant by MTC in its Notice of Preparation (see Appendix A). These issues and areas of concern include:

- **Transportation:** How would the proposed Transportation 2030 Plan affect travel behavior and the performance of the Bay Area's transit systems and streets and highways?
- **Air Quality:** What effect would the transportation investments in the proposed Transportation 2030 Plan have on regional air quality, including ozone, carbon monoxide and particulate matter?
- **Land Use, Housing, and Social Environment:** Would the proposed Transportation 2030 Plan convert significant amounts of prime agricultural lands from natural resource uses to transportation uses? Would the transportation projects and programs conflict with local plans? Would proposed projects in the proposed Transportation 2030 Plan displace a large number of people, disrupt or displace businesses, or physically divide established communities? Would implementation of the proposed Transportation 2030 Plan influence future land use decisions?
- **Energy:** How would the proposed Transportation 2030 Plan affect non-renewable energy use connected with construction of new projects and the operation of motor vehicles and transit? Also, since combustion of fossil fuel for transportation purposes releases greenhouse gases, how would implementation of the proposed Transportation 2030 Plan contribute to global warming?
- **Noise:** Would there be significant changes in community noise levels resulting from increases in regional traffic and proposed projects in the proposed Transportation 2030 Plan?
- **Geology and Seismicity:** Would construction of projects in the proposed Transportation 2030 Plan expose travelers or structures to greater risk of injury or loss of life due to earthquakes, landslides, or liquefaction?
- **Water Resources:** Would the proposed Transportation 2030 Plan significantly affect changes in absorption rates, drainage patterns, rates or quality of surface water runoff or increases in flooding within the region?
- **Biological Resources:** Would the proposed Transportation 2030 Plan have the potential to disturb or reduce important habitats for plant and animal species, especially rare and endangered species? Would transportation improvements in proposed Transportation 2030 Plan obstruct the migration and movement of species within their habitats? Would the Plan be consistent with adopted conservation plans?

- **Visual Resources:** Would transportation improvements in the proposed Transportation 2030 Plan obstruct regionally significant scenic views or create aesthetically displeasing views?
- **Cultural Resources:** Would transportation improvements in the proposed Transportation 2030 Plan lead to the destruction or damage of archaeological or historical resources within the region, both those that are identified and those yet unknown?

Impact areas not specifically discussed include recreation, utilities and service systems, public services, and hazardous materials. As indicated in the Notice of Preparation for the proposed Transportation 2030 Plan EIR, no significant impacts of regional importance are expected to occur in these areas. These impacts will be addressed in project-specific environmental documents.

EIR ORGANIZATION

Executive Summary

This EIR begins with an executive summary of the proposed Transportation 2030 Plan, which includes a review of the potentially significant adverse regional environmental impacts of the proposed Transportation 2030 Plan and the measures recommended to mitigate those impacts. The executive summary also notes whether those measures mitigate the significant impacts to a level of insignificance. Finally, the executive summary describes the alternatives and their merits compared to the proposed Transportation 2030 Plan, and identifies the environmentally superior alternative.

Part One: Introduction and Project Description

Part One includes two chapters. Chapter 1.1 describes the relationship between the proposed Transportation 2030 Plan and the EIR and describes the basic legal requirements of a program level EIR. It discusses the level of analysis and the alternatives considered as well as how this EIR is related to other environmental documents and the EIR's intended uses. Chapter 1.2 introduces the purpose and objectives of the proposed Transportation 2030 Plan and summarizes specific information that will be used to describe the proposed Transportation 2030 Plan and complete the EIR analysis. This includes a discussion of the existing project setting and an outline the Bay Area's projected population and employment growth rates and development patterns through the year 2030 planning horizon. In addition, State and Federal legislation that guides the development of the RTP process is reviewed. Finally, this section introduces the proposed Transportation 2030 Plan.

Part Two: Settings, Impacts, and Mitigation Measures

Part Two describes the existing environmental setting for each of the environmental issue areas analyzed in the EIR, the potential impacts that the proposed Transportation 2030 Plan would have on these areas, and measures to mitigate the potential impacts identified. Each issue area is analyzed in a separate chapter. Each chapter is organized as follows:

- Environmental setting;
- Criteria of significance;
- Method of analysis;
- Summary of impacts; and
- Impacts and mitigation measures.

Part Three: Alternatives and CEQA-Required Conclusions

Part Three includes a description of five transportation alternatives to the proposed Transportation 2030 Plan and an assessment of their potential to achieve the objectives of the proposed Transportation 2030 Plan while reducing potentially significant adverse regional environmental impacts. Part Three also includes a comparison and summary of regional environmental impacts associated with the alternatives. As required by CEQA, an environmentally superior alternative is identified. Finally, Part Three includes an assessment of the impacts of the proposed Transportation 2030 Plan in several subjects areas required by CEQA, including:

- Significant unavoidable impacts;
- Significant irreversible environmental changes;
- Growth-inducing impacts;
- Cumulative impacts; and
- Impacts found to be not significant.

Part Four: Report Authors and Bibliography and Appendices

Part Four includes a bibliography and the EIR appendices. Appendix A includes the Notice of Preparation (NOP) of this EIR and Appendix B includes the written comments received on the NOP. Appendix C includes detailed project lists for the proposed Transportation 2030 Plan and the five alternatives studied in the EIR. Appendix D-1 includes a full narrative on the Transportation Solutions and Education Defense Fund (TRANSDEF) Smart Growth Alternative, an alternative included as a result of a legal settlement in a prior citizens lawsuit. Appendix D-2 compares the assumptions of ABAG's *Projections 2003* and the TRANSDEF Smart Growth alternative. Appendix E summarizes ABAG's *Projections 2003* in comparison to previous ABAG demographic projections. Finally, Appendix F includes a detailed discussion of the regulatory setting associated with biological resources and a detailed list of special-status species in the Bay Area with the potential to occur in or near the transportation improvements proposed in the Transportation 2030 Plan. More detailed descriptions of additional significant ecosystems in the Bay Area that are not outlined in Chapter 2.8 are also included.

NOTICE OF PREPARATION

CEQA regulations require an early and open process for determining the scope of issues that should be addressed prior to implementation of a proposed action. MTC initiated the scoping process on February 16, 2004. As required by CEQA, MTC sent a copy of the NOP to the State Clearinghouse within the California Office of Planning and Research. The Clearinghouse is responsible for monitoring compliance of state agencies in providing timely responses. The Clearinghouse assigned state identification number SCH NO. 2004022131 to this EIR. MTC also filed the NOP with the county clerks in each of the nine Bay Area counties as well as posted the NOP on MTC's website (www.mtc.ca.gov). The Bay Area Partnership (which is comprised of representatives of congestion management agencies, transit operators, public works directors, and other state and federal governmental agencies) and interested individuals and organizations also were sent copies of the NOP in the mail.

The NOP provides formal notification to all federal, state, and local agencies involved with funding or approval of the project, and to other interested organizations and members of the public, that an EIR will be prepared for the project. The NOP is intended to encourage interagency communication concerning the proposed action and to provide sufficient background information about the proposed action so that agencies, organizations, and individuals can respond with specific comments and questions on the scope and content of the EIR. A copy of the NOP is provided in Appendix A, and the written comments received during the 30-day NOP period are contained in Appendix B.

PUBLIC SCOPING

Consistent with AB 1532, which modified Section 21083.9 of the CEQA statutes, a public scoping meeting was held on March 10, 2004, to solicit comments on the EIR. The meeting was held in the evening at the MTC offices in Oakland. Attendees were primarily members of the public. The meeting summary is included in Appendix A.

EIR APPROACH

LEVEL OF ANALYSIS

This EIR focuses primarily on regional impacts, but also addresses transportation corridor impacts for a number of the environmental issue areas. MTC has defined 14 multi-modal travel corridors in recognition of their primacy as determiners of regional travel patterns. Where project level information is available or can be surmised as to potential impacts, these impacts are discussed under the assumption that they may individually or cumulatively contribute to regional impacts (this would need to be verified in subsequent project-level environmental documents). Many of the projects evaluated in the 2001 Regional Transportation Plan are carried forward to the proposed Transportation 2030 Plan. Refer to Chapter 1.2 and Appendix C for a more detailed description of these corridors and projects.

TYPES OF IMPACTS

According to the CEQA Guidelines, the following general types of environmental impacts need to be considered:

- **Direct or primary impacts**, which are caused by the project and occur at the same time and place.
- **Indirect or secondary impacts**, which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary impacts may include growth-inducing impacts and other impacts related to induced changes in the pattern of land use, population density, or growth rate, and related impacts on air and water and other natural systems, including ecosystems. Indirect or secondary impacts may also include cumulative impacts.
- **Short-term impacts**, which are those of a limited duration, such as the impacts that would occur during the construction of a project.
- **Long-term impacts**, which are those of greater duration, including those that would endure for the life of a project and beyond.
- **Significant unavoidable impacts**, which cannot be mitigated to a level that is less than significant.
- **Irreversible environmental changes**, which may include current or future commitments to using non-renewable resources, secondary, or growth-inducing impacts that commit future generations to similar uses. Also, irreversible change can result from risks of accidents and injury associated with the project.
- **Cumulative impacts** that include two or more individual impacts which, when considered together, are considerable or which compound or increase other environmental impacts. The individual impacts may be changes resulting from a single project or a number of separate projects. The cumulative effect from several projects is the change in the environment that results from the incremental effect of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time.

As a program level EIR, individual project impacts are not addressed in detail; rather the focus of this EIR is to address the impacts of projects, which, individually or in the aggregate, may be regionally significant. For example, the physical impacts of major regional transportation expansion projects are addressed, while potential specific impacts to wetlands/endangered species habitat by an individual interchange reconstruction project would not be discussed, unless information currently exists or it can be surmised that the effect would be large or otherwise regionally significant. All impacts of individual projects will be addressed in future corridor transportation studies and project specific EIRs.

NO PROJECT VS. PROPOSED PROJECT COMPARISON

In addition to assessing the impacts of the Proposed Project relative to existing conditions (as required by CEQA), a comparison of the impacts of the No Project Alternative with those of the Proposed Project (the proposed Transportation 2030 Plan) assesses the overall effect of the projects and programs in the proposed Transportation 2030 Plan. This is accomplished by evaluating impacts of both the No Project and Proposed Project in 2030, the horizon year for the proposed Transportation 2030 Plan. The No Project and Project alternatives comparison also helps differentiate the proposed Transportation 2030 Plan impacts from the cumulative population and employment growth impacts that would affect travel demand on the regional transportation system and which are largely independent from proposed Transportation 2030 Plan policies and investments.

ALTERNATIVES

CEQA requires EIRs to evaluate a reasonable range of feasible alternatives to the proposed project that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts of the proposed project. This EIR will evaluate the No Project alternative as required by CEQA, as well as four other alternatives. Three alternatives are based on the financially constrained element of the Transportation 2030 Plan: (1) financially constrained plan, (2) financially constrained plan plus transportation sales tax projects proposed for the November 2004 ballots in Contra Costa, San Mateo, Marin, Sonoma, and Solano counties, and (3) financially constrained plan plus a high-occupancy toll network for the Bay Area.. The fourth alternative is the result of a Settlement Agreement in a recent lawsuit between MTC and the Transportation Solutions Defense and Education Fund (TRANSDEF), a citizens organization, which is called the TRANSDEF Smart Growth Alternative. TRANSDEF has defined the set of transportation projects and programs, land use planning assumptions, and pricing assumptions to be evaluated under this alternative. MTC is under no obligation to adopt this alternative per the settlement agreement. Alternatives are described and analyzed in Part Three of this EIR.

CUMULATIVE IMPACTS ASSUMPTIONS

This EIR distinguishes between the impacts of the Transportation 2030 Plan investment program as a whole and the independent impacts of forecasted future population and employment growth, together with assumptions about where this growth will occur, which the proposed Transportation 2030 Plan projects and programs will serve. Thus, as required by statutes, MTC's travel projections for the Proposed Project are based on the regional growth estimates prepared by the Association of Bay Area Governments (ABAG); the most recent adopted forecast is *Projections 2003*.

Some impacts on the environment will occur for reasons unrelated to the Transportation 2030 Plan investment. For instance, population growth in the Bay Area is forecast to increase substantially due primarily to increases in births and life expectancy as well as to migration factors attributed to the Bay Area economic base and quality of life. Another example is the overall trend in rising energy consumption for transportation that can be attributed to the

assumption in this EIR that average vehicle fuel economy will remain constant in the future. So while the provision of different mixes of transportation investments will affect how people travel, future improvements in vehicle fuel economy will require new actions by the federal government and Congress which cannot be assumed by MTC in this EIR.

RELATIONSHIP TO OTHER EIRS

This EIR relies on the description, analysis and conclusions contained in earlier EIRs and provides updated information for many areas. This EIR updates the 2001 Regional Transportation Plan for the San Francisco Bay Area Draft Environmental Impact Report (August 2001), and the 2001 Regional Transportation Plan Final Environmental Impact Report (December 2001).

As a program EIR, the preparation of this document does not relieve the sponsors of the projects listed in the Transportation 2030 Plan from the responsibility of complying with the requirements of CEQA and/or NEPA for projects requiring federal funding or approvals. As noted, individual projects are required to prepare a more precise, project-level analysis to fulfill CEQA and/or NEPA requirements. The lead agency responsible for reviewing these projects shall determine the level of review needed, and the scope of that analysis will depend on the specifics of the particular project. These projects may, however, use the discussion of regional impacts in this EIR as a basis of their assessment of these regional or cumulative transportation impacts.

INTENDED USES OF THE EIR

The CEQA Guidelines (Section 15124(d)) require EIRs to identify the agencies that are expected to use the EIR in their decision-making and the approvals for which the EIR will be used. The MTC will use the EIR as part of its review and approval of the Transportation 2030 Plan. The lead agencies for projects analyzed in this EIR may use the EIR as the basis of their regional cumulative analysis of the impacts of the specific projects, together with the projected growth in the region.

Bay Area congestion management agencies (CMAs) may incorporate information provided in this EIR into future county transportation plans such as Congestion Management Programs, Countywide Transportation Plans, or County bike and pedestrian plans. Other agencies expected to use the EIR include, Caltrans, transportation authorities, transit providers in the region (such as BART, AC Transit, Vallejo Transit, WestCAT, Muni, Caltrain, ACE, Water Transit Authority, etc.), the Bay Conservation and Development Commission, and cities and counties.

APPROVALS FOR WHICH THE EIR WILL BE USED

This EIR is being prepared for use by MTC in its review and approval of the proposed Transportation 2030 Plan. The EIR is intended to be solely used for the approval of the Transportation 2030 Plan and should not be used for the approval of individual projects included in the Transportation 2030 Plan. However, information in this document can be referenced as applicable.

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I.2 Overview of the Proposed Transportation 2030 Plan

The proposed project for this EIR is the Transportation 2030 Plan for the San Francisco Bay Area. This section provides background information on the Metropolitan Transportation Commission (MTC) and the proposed Transportation 2030 Plan. Key objectives and major capital projects in the Transportation 2030 Plan are also discussed.

PURPOSE AND OBJECTIVES

The proposed Transportation 2030 Plan represents the transportation policy and action statement of MTC for how to approach the region's transportation needs over the next 25 years. The Transportation 2030 Plan's assessment of future transportation conditions and the effect of proposed transportation improvements on mobility are based on the Association of Bay Area Government's (ABAG's) most recent growth projections—*Projections 2003*.

The Transportation 2030 Plan proposes a set of future transportation projects and programs that can be implemented with available funding as well as identifying projects that would be considered if new funding is obtained. The Transportation 2030 Plan is intended to serve the region's mobility needs. The goals approved by the Commission in December 2003 for the Transportation 2030 Plan are as follows:

Goal	Objectives
A Safe and Well Maintained System	<ul style="list-style-type: none">• Reduce injuries and fatalities for all modes;• Be prepared for future transportation emergencies resulting from natural disasters and security threats;• Reduce long term transportation repair costs through timely replacement of assets; and• Save consumers repair costs due to poor road conditions.
A Reliable Commute	<ul style="list-style-type: none">• Create an effective set of travel options for people to get to their destinations depending on their personal preferences for time, cost, convenience and trip reliability;• Improve the number of trips that can be made on time;• Make it easier for people to make connections between transit systems and freeway segments and to move from one mode to another;• Improve information on travel conditions and options; and• Make cost effective use of new technologies in support of these objectives.

Goal	Objectives
Access to Mobility	<ul style="list-style-type: none"> • Identify barriers, such as gaps in service, affordability, and safety; • Improve delivery of services by coordinating with a range of agencies; and • Secure adequate resources to respond to lifeline mobility needs.
Livable Communities	<ul style="list-style-type: none"> • Create incentives to encourage transit-oriented development around regional transit systems and mixed use development elsewhere; • Create new and safer ways to get around within communities by walking and biking and connecting communities to transit; and • Partner with local communities in developing transportation approaches that enhance community vitality for neighborhoods and retail centers.
Clean Air	<ul style="list-style-type: none"> • Achieve additional reductions in motor vehicle emissions through effective transportation control measures; • Working with the Air District, develop new episodic control strategies for predicted high ozone days; and • Help reduce particulate matter from buses and other heavy duty vehicles.
Efficient Freight Travel	<ul style="list-style-type: none"> • Identify key improvements in the surface transportation system where public investment can help the freight industry; • Identify long term capacity issues associated with cargo movement through airports and seaports; and • Collaborate with the private sector to best leverage both public and private financial resources to improve freight related infrastructure.

In addition, the Commission approved a five-point transportation/land-use platform to further coordinate transportation and land use planning within the Bay Area and with neighboring regions. The implementation plan for the platform would be developed in collaboration with ABAG, congestion management agencies (CMAs), local governments, and other key stakeholders. The platform proposes to:

- Develop a specific policy statement;
- Supplement MTC's neighborhood-oriented Transportation for Livable Communities and Housing Incentive Programs (TLC/HIP), with planning incentives that support a broader set of land use objectives, such as specific plans for transit oriented and infill development;

- Condition regional discretionary funding for MTC's Resolution 3434 regional transit expansion program to the provision of supportive land uses in those transit corridors and around those stations;
- Support improved transportation/land use development outside of major transit commute corridors, including the development of a complementary open space plan; and
- Better coordinate transportation and land use planning with regions that adjoin the Bay Area, and share the challenges of regional job/housing imbalance and growing interregional commuting demands.

Projects submitted for state and federal funding must be included in the Transportation 2030 Plan for MTC to approve their funding. They must also be included in MTC's fund programming document, called the Transportation Improvement Program (TIP), which is derived from the investment priorities in the Transportation 2030 Plan.

PROJECT BACKGROUND

PROJECT SETTING

With a population of approximately seven million in the year 2000, the San Francisco Bay Area is the fifth most populous metropolitan area in the United States behind New York, Los Angeles, Chicago, and Washington D.C. (Census 2000). The region consists of nine counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. According to ABAG's *Projections 2003*, only about 18 percent of the region's approximately 4,757,251 acres is developed. Seventy-two percent of this developed land is in residential use. Figure 1.2-1 illustrates the regional location of the Bay Area.

From 1960-2000, the region's population has grown by 90 percent, while jobs increased by 200 percent. This growth has been far from uniform. The locations of people and jobs have become much more dispersed as new urban centers have formed and cities have gained population on the edge of the region.

In the last ten years, the Bay Area has experienced significant growth. According to ABAG forecasts, population has increased by 764,000 residents and employment has grown by 548,000 jobs. This represents a 17 percent increase in employees in just ten years. Development has continued as well, with a five percent increase in developed acres (ABAG, 2003). This rapid economic transition has placed additional demands on already-strained transportation systems.

The Bay Area transportation network includes interstate and state freeways, county expressways, local streets and roads, bike paths, sidewalks, and a wide assortment of transit technologies (heavy rail, light rail, intercity rail, buses, trolleys and ferries). At the broad program level, the Transportation 2030 Plan addresses the strategic allocation of funds between system maintenance, operations and expansion. In addition to a number of specific transportation projects, the Transportation 2030 Plan also includes several programs that have regional benefits or are most efficiently administered at a regional level, such as various system management and

operation programs, customer service programs, and transportation and land use integration programs.

PROJECTED GROWTH

According to ABAG's *Projections 2003*, the five most populated counties in 2000 in descending order, were Santa Clara, Alameda, Contra Costa, San Francisco, and San Mateo, accounting for 82 percent of the region's population. ABAG projects that the Bay Area will add nearly 2 million new residents between 2000 and 2030. These same five counties will continue to account for 82 percent of the region's residents in 2030. Figure 1.2-2 illustrates this trend. Population continues to grow much more quickly in suburban areas than urban areas as development expands outwards. Moreover, as a result of the shortage of affordable housing in the Bay Area, growth from the Bay Area is spilling over to outlying counties, such as San Benito, San Joaquin, Stanislaus, and Merced.

In 2000, the top five counties for employment were Santa Clara, Alameda, San Francisco, San Mateo, and Contra Costa, accounting for 80 percent of the Bay Area jobs. ABAG estimates that approximately 1.5 million new jobs will be created in the region between 2000 and 2030. The five most populous counties will also account for 85 percent of the region's jobs at the end of this period. While the top three counties will rank the same, Contra Costa County will surpass San Mateo in 2030. The employment trends are shown in Figure 1.2-3.

These projections indicate the strong population and economic growth that presage the need for ongoing improvements to the regional transportation system. Not only must work trips be accommodated, but this growth will increase trips of all types, including shopping trips, school trips, recreational trips, airport access trips, etc. (See Appendix E for further discussion of ABAG's *Projections 2003*).

FEDERAL AND STATE LEGISLATION

Federal, State, and MTC statutes guide the content of a regional transportation plan prepared by MTC, as follows:

Federal Statutes

- Federal statutory requirements for the preparation of a long-range regional transportation plan by Metropolitan Planning Organizations are set forth in Section 134 of the Transportation Equity Act for the 21st Century (TEA 21).¹ The law requires that the RTP be financially constrained to a realistic estimate of available transportation funds. The long-range plan may also include a set of illustrative projects that could be pursued with additional future revenues.
- Regulations on content and process for developing RTPs are codified in Title 23 of the Code of Federal Regulations Part 450, Section 450.322(b) (Metropolitan Transportation Planning Process).

¹ MTC is the designated Metropolitan Planning Organization (MPO) for the Bay Area.

Figure I.2-1
Regional Setting

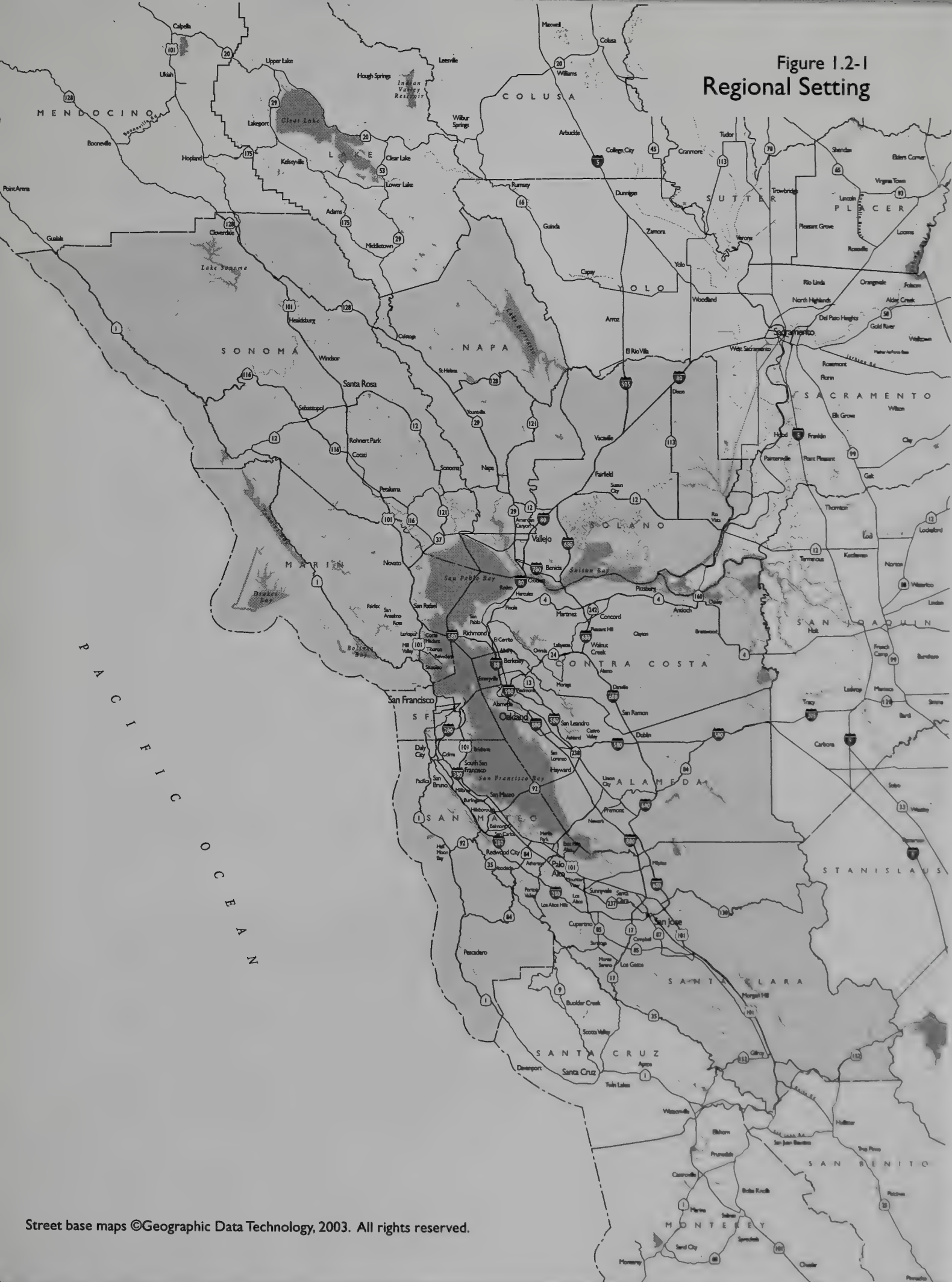


Figure 1.2-2: Population Growth by County (2000-2030)

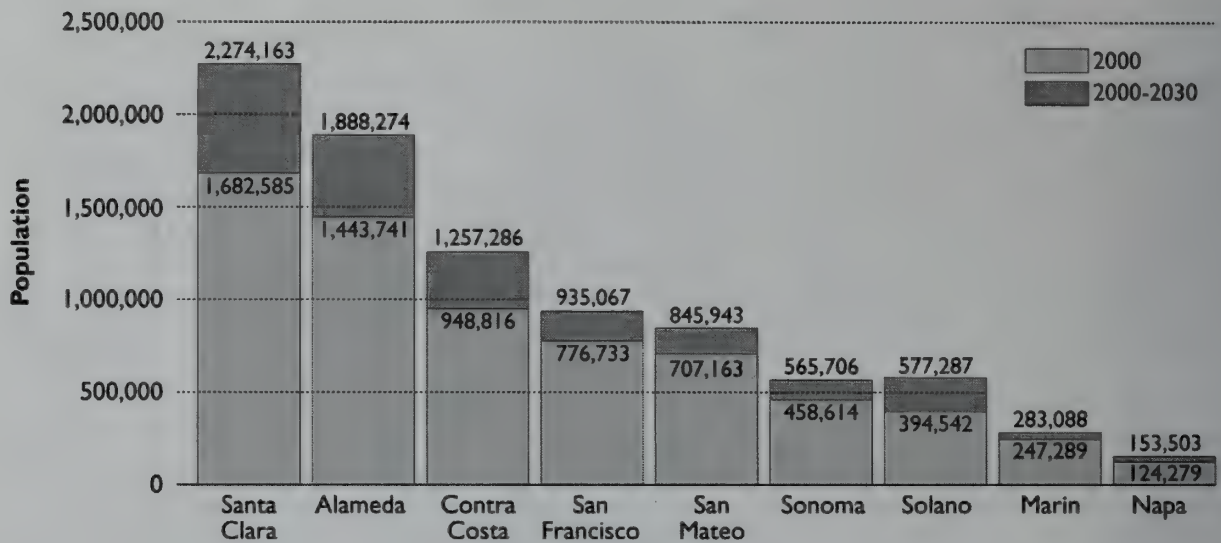
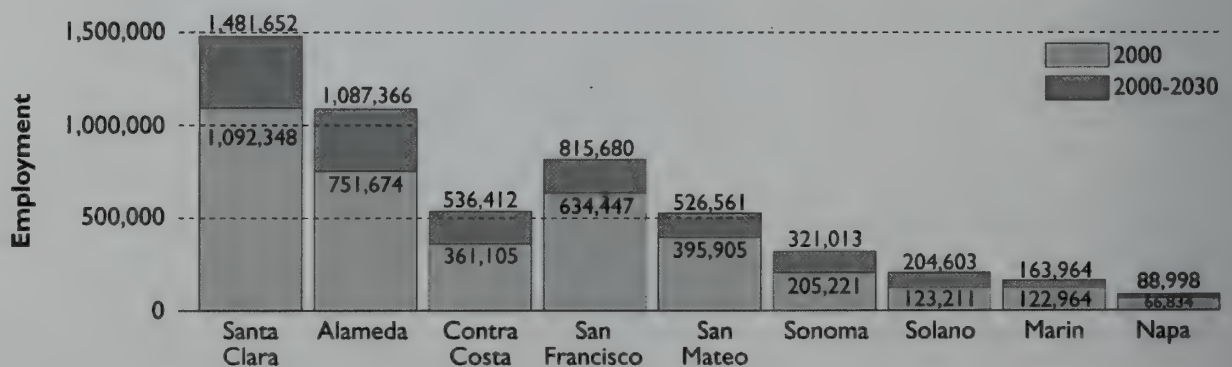


Figure 1.2-3: Employment Growth by County (2000-2030)



State Statutes

- State Government Code Section 65080 *et. seq.* of Chapter 2.5 requires preparation of Regional Transportation Plans.
- State planning requirements are set forth in Section 65070 *et. seq.* of Chapter 2 of the State Government Code.

The contents of a Regional Transportation Plan are also outlined in Government Code Section 65080, and are described below. The Transportation 2030 Plan will cover all appropriate issues associated with each element; however, the document may be organized differently.

- *Policy Element:* reflects the mobility goals, policies and objectives of the region.
- *Action Element:* identifies programs and actions to implement the RTP.
- *Financial Element:* summarizes the cost of implementing the projects in the RTP considering a financially constrained environment.

MTC Statutes

Finally, MTC's own enabling statutes (State Government Code Section 66508 through Section 66513) require preparation of a RTP.

In addition, to remain eligible for federal transportation funds, MTC must demonstrate that, through a process called "transportation conformity", the road and transit projects contained in the RTP will help attain and maintain federal air quality standards designed to reduce ground level ozone. This conformity process includes a comparison of transportation emissions to a mobile source "budget" contained in the federal air quality plan. The conformity determination is a separate process from this EIR.

Once adopted, the Transportation 2030 Plan will guide development of the Bay Area's Transportation Improvement Program (TIP) in which projects and their specific funding sources are listed. Requests for federal or state funds for specific projects must be consistent with the RTP and TIP.

PROJECT DESCRIPTION - TRANSPORTATION 2030 PLAN

The Proposed Project, Transportation 2030 Plan, is a long-range, strategic investment plan to improve system performance for Bay Area travelers. Transportation 2030 is comprised of both a financially constrained element that MTC calls the "down payment," which directs anticipated funding to core transportation investments, as well as a comprehensive, action-driven course to fulfill our "vision" of a transportation system that performs better for all Bay Area travelers. Key investments would focus on system maintenance, operations and strategic expansion. Projects range from basic system maintenance, to management programs focused on improving system efficiency, and to major expansions of transit and roads.

FINANCIALLY CONSTRAINED ELEMENT

In 1991, the Intermodal Surface Transportation Efficiency Act (ISTEA) instituted a requirement that long-range transportation plans be financially constrained. Successor legislation, the Transportation Efficiency Act for the 21st Century (TEA 21), passed in 1998, reaffirmed this federal planning mandate. TEA 21 expired on September 30, 2003. Congress has granted several extensions of TEA 21 but has not yet passed new authorizing legislation.

This Transportation 2030 Plan and the past three plans have defined financially constrained as meaning those federal, state and local revenues that are reasonably available, projected out 25 years. Voter approved county transportation sales tax measures are included in the financially constrained element up to their sunset date. No new revenue sources are assumed to be available. Total estimated revenues over the next 25 years amounts to \$113 billion, and constitutes the financial sources available for the Transportation 2030 Plan. Figure 1.2-4 shows the total 25-year projected revenue sources. Figure 1.2-5 displays the total 25-year revenue expenditures for the financially constrained element of Transportation 2030.

For purposes of this EIR analysis, the financially constrained element of Transportation 2030 is comprised of two classes of projects – (1) “Committed” projects and (2) “New Commitment” projects. Committed projects are projects that have received secure funding, i.e., are fully funded at the time of the EIR preparation and will be constructed at some point in the future. These projects will occur regardless of future funding decisions. These committed projects will be evaluated as the No Project alternative, and all other project alternatives (including the Proposed Project) will include and thus “build upon” these committed projects. New commitment projects, while also part of the financially constrained element, would require federal, state, regional, and local revenues projected to be reasonably available through the 25-year horizon of the Transportation 2030 Plan.

VISION ELEMENT

Although TEA 21 maintains financial constraint, it allows the financial element to include, for illustrative purposes, additional projects that would be included in the adopted plan if reasonable additional resources beyond those identified in the financially constrained element were available. Illustrative projects do not have the same status as financially constrained projects. They are not included in the air quality conformity analysis of the Plan, nor can they be programmed directly into the Transportation Improvement Program (TIP).

The financially unconstrained vision element of Transportation 2030 will be an integral component in delivering not just new projects, or new revenues, but improved system performance for Bay Area travelers. In the 1998 Regional Transportation Plan, this vision element was known as “Track 2”; in the 2001 Regional Transportation Plan, it was the “Blueprint”. For Transportation 2030, the vision element was initially labeled as the “Big Tent”. Transportation 2030 differs from past plans in that it proposes to integrate the vision element’s policy and funding initiatives into the action element of the plan.

Chapter One: Introduction and Project Description
Section 1.2: Overview of the Proposed Transportation 2030 Plan

Figure 1.2-4: Projected 25-Year Revenue Sources (Financially Constrained Element)

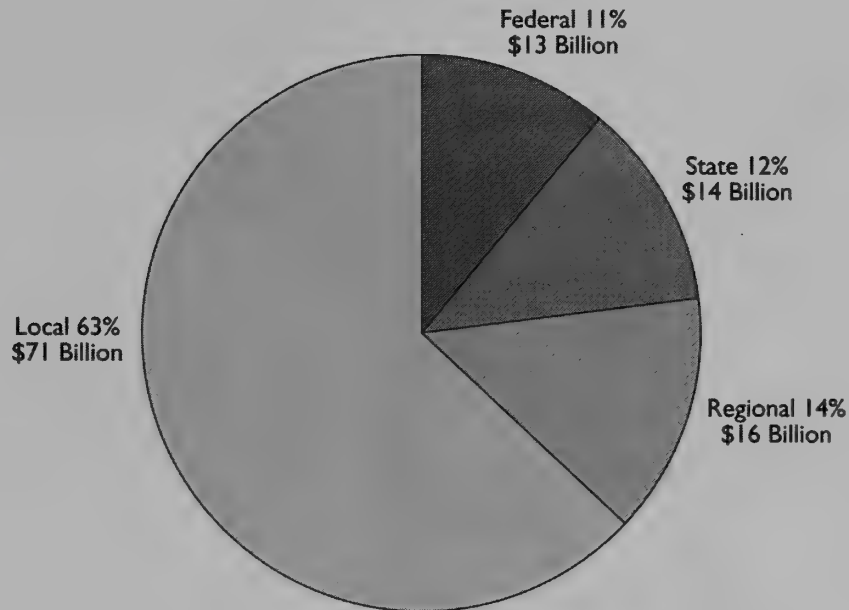
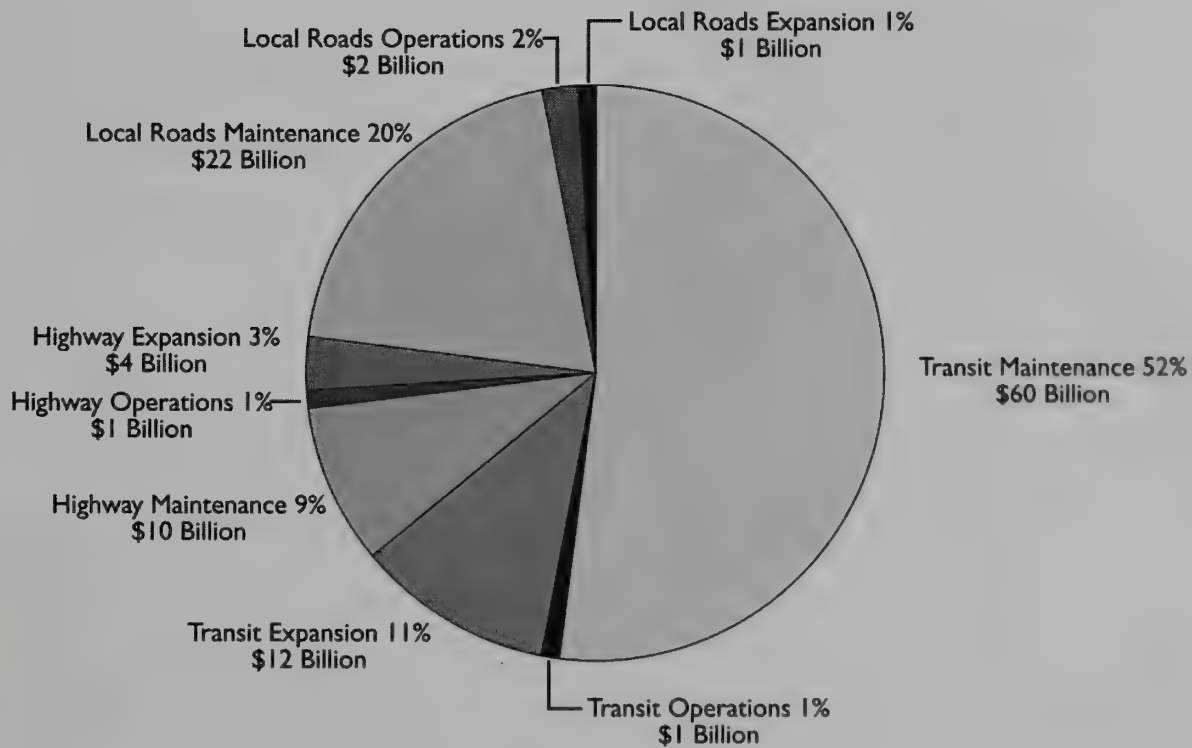


Figure 1.2-5: Total 25-Year Revenue Expenditures (Financially Constrained Element)



Projects identified in the vision element of the Transportation 2030 Plan include (1) proposed transportation sales tax projects pending voter approval in the November 2004 elections for Marin, Sonoma, Solano, Contra Costa, and San Mateo counties; (2) proposed completion of the High-Occupancy Vehicle (HOV) network in the region and its conversion into a High-Occupancy Toll (HOT) network; and (2) regionally significant transit and road rehabilitation shortfalls as well as system efficiency and capacity improvements needed to keep pace with the region's growth.

TRANSPORTATION 2030 INVESTMENTS BY CORRIDOR

This EIR focuses on regional impacts and addresses transportation corridor impacts. Fourteen multi-modal travel corridors have been identified in past plans, and are used here in this EIR for analytic purposes. Figure 1.2-6 shows the location of the 14 corridors in the region in the region. A subset of financially constrained element (shown as committed and new commitment projects) and vision element projects for each corridor are listed and illustrated in Figures 1.2-7 through 1.2-20. A comprehensive listing of the transportation projects/programs for the proposed Transportation 2030 Plan are included in Appendix C.

Figure I.2-6
Transportation 2030 Plan Corridors

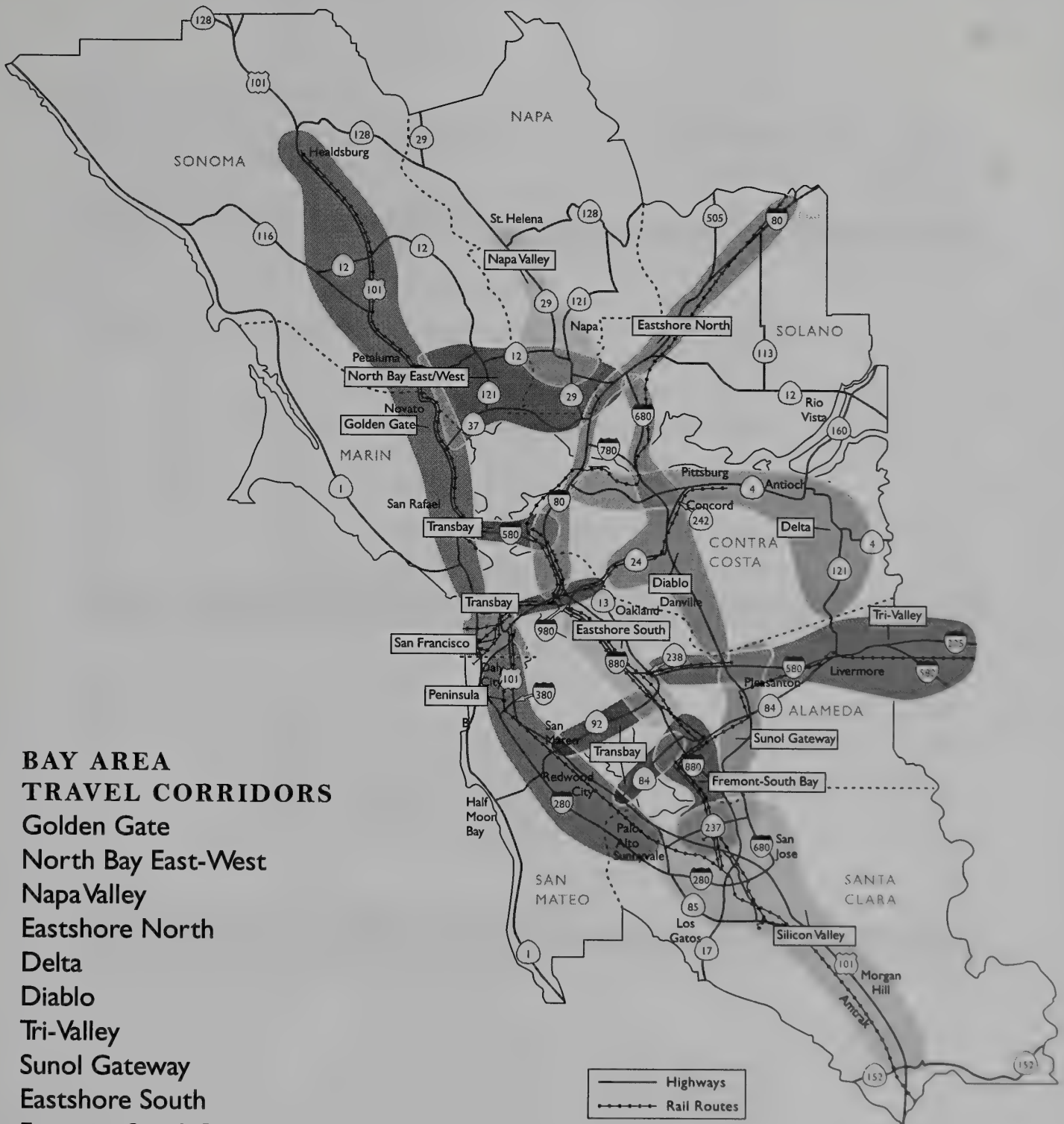


Table 1.2-1: Golden Gate Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Financially Constrained Element: Committed Projects		
21346		Widen Rte 116 onramp to SB US 101
21325		US 101/Greenbrae I/C impvts
94563		Widen US 101 for HOV 3s (one in each direction) from Lucky Dr in Corte Madera to N San Pedro Rd in San Rafael
98178		US 101/Sir Francis Drake Blvd impvts
22655		Widen US 101 for HOV 3s from Rohnert Park Expy to Santa Rosa Ave
22656		US 101/E Washington St I/C impvts
94165		US 101 NB and SB HOV 3s from Rte 12 to Steele Ln in Santa Rosa
94689		US 101/Arata Ln I/C impvts in Windsor
22001		SMART Commuter Rail project (environ, prelim engineering, ROW)
Financially Constrained Element: New Commitment Projects		
21303	34	Local Marin bus service enhancements
21306	28	US 101/Lucas Valley Rd I/C impvts
21308	35	Expand Manzanita park-and-ride lot
21902	17	Widen US 101 for HOV 3s from Old Redwood Hwy to Rohnert Park Expy
94089	40	Reconstruct Doyle Dr from Golden Gate Bridge toll plaza to Broderik St
98147	21	Widen US 101 from Rte 116 E to the Marin/Sonoma Co line to 6 Ins
98154	22	Widen US 101 from Rte 37 to the Sonoma Co line to 6 Ins
98179	38	US 101/Tiburon Blvd I/C impvts
98183	10	Widen US 101 for HOV 3s btwn Steele Ln and Windsor River Rd
Vision Element Projects		
21030	34	I-580/US 101 I/C impvts and new Fwy-to-Fwy connectors from WB I-580 to NB and SB US 101
21315	26	US 101/Miller Creek Rd I/C impvts in Marinwood
21317	39	Widen Rte 1 from US 101 to Flamingo Rd
21326	37	US 101/Tiburon Blvd I/C impvts
21329	36	Expand Manzanita park-and-ride lot
21334	29	US 101/Lucas Valley Rd I/C impvts
22191	8	US 101/Airport Blvd I/C impvts
22193	5	* Construct Forestville bypass on Rte 116
22195	19	* Old Redwood Hwy/US 101 I/C impvts

Chapter One: Introduction and Project Description
Section 1.2: Overview of the Proposed Transportation 2030 Plan

Table 1.2-1: Golden Gate Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*


<i>Project ID</i>	<i>Map ID</i>	<i>Description</i>
22197	20	* Penngrove local Rd impvts including RailRd Ave I/C
22204	6	* Widen Fulton Rd from Guerneville Rd to US 101 to 4 lns
22205	14	* US 101/Hearn Ave I/C impvts; including widening overcrossing and ramps
22206	15	* Construct Rte 12/Fulton Rd I/C
22207	13	* Extend Farmers Ln as a 4-Ln arterial from Bellevue Ave to Rte 12
22419	33	* ** Widen US 101 for HOV lns from Lucky Dr to N San Pedro Rd
22429	30	US 101/Manuel Freitas Pwy I/C impvts
22436	32	US 101 SB aux Ln from Lincoln to Mission
22437	25	US 101 NB aux Ln at Nave Dr
22438	16	* Bodega Hwy impvts west of Sebastopol
22513	1	SMART commuter rail project (construction)
22639	3	US 101/Mill St I/C in Healdsburg
22640	7	US 101/Shiloh Rd I/C in Windsor
22641	12	US 101/Baker I/C in Santa Rosa
22642	2	US 101/Dry Creek I/C in Healdsburg
22643	11	US 101/Mendocino Ave/Hopper Ave I/C
22644	18	US 101/Bellevue I/C
22646	9	US 101/River Rd I/C
22754	24	US 101 NB ramp meter, TOS, fiber optic cable project
22755	27	US 101 and I-580 ramp meter, TOS, fiber optic cable project

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Figure 1.2-7
Golden Gate Corridor



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics

 State Highway

 Interstate Highway

 U.S. Highway



Table 1.2-2 North Bay East-West Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Financially Constrained Element: Committed Projects		
22899		Widen Rte 12 btwn Suisun City and Rio Vistation to 4 Ins
21070		Realign and widen Rte 116 along Champlin Creek
21998		Rehabilitate and widen Rte 116 btwnbtwn Elphick Rd to Redwood Dr
94691		Rte 121 traffic signal system and channelization at 8th St
22626		Rte 29/Rte 37 I/C impvts
94675		Widen Rte 37 from Napa River Bridge to Rte 29 to 4-Ln fwy
Financially Constrained Element: New Commitment Projects		
21823	7	Rte 12 from Sacramento River to I-80 operational and safety impvts
22708	9	Rte 12 from I-80 to Sacramento Bridge long-term capacity and operational impvts
94073	3	Construct new SB Rte 221 to SB Rte 29 flyover
94074	5	Widen Rte 12 from I-80 in Solano Co to Rte 29 in Napa Co to 4 Ins (Napa Co portion)
94075	4	Rte 12/Rte 29/Airport I/C construction
94152	6	Widen Rte 12 from I-80 in Solano Co to Rte 29 to 4 Ins (Solano Co portion)
Vision Element Projects		
21824	8	Rte 12 from I-80 to Sacramento Bridge capacity and operational impvts
22190	1	Hwy 116/Hwy 121 intersection impvts and Arnold Dr impvts
22747	2	Rte 12/Rte 29/Rte 121 intersection impvts

Figure I.2-8
North Bay East-West Corridor



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics

-  State Highway
-  Interstate Highway
-  U.S. Highway



Table 1.2-3: Napa Valley Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

<i>Project ID</i>	<i>Map ID</i>	<i>Description</i>
Financially Constrained Element: Committed Projects		
94071		Replace Napa River Bridge and widen to 4 lns on Rte 121 over the Napa River
94575		Construct grade-separated I/C at Rte 29 and Redwood Rd/Trancas St
94076		Trancas intermodal facility adjacent to I/C at Rte 29 and Redwood Rd/Trancas St
Vision Element Projects		
22740		Rte 29 safety and operational impvts
22743		Express bus/pre-rail program
22746	I	Widen Rte 29/First St overcrossing to 4 lns

Figure I.2-9
Napa Valley Corridor



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics

-  State Highway
-  Interstate Highway
-  U.S. Highway



Table I.2-4 Eastshore North Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Financially Constrained Element: Committed Projects		
94047		Extend the northern limits of the I-80 WB HOV Ln from N of Cummings Skyway to Rte 4
98211		I-80 EB HOV Ln extension from Rte 4 to the Crockett I/C just S of the Carquinez Bridge
21208		Richmond Pkwy Transit Center
22625		I-80/N Texas St I/C impvts
22631		Rte 12 WB (Red Top Rd) truck ln
22624		Construct continuous 4-ln Jepson Pwy from Suisun City to Vacaville
22003		Capitol Corridor: Phase 2 enhancements
22009		Capitol Corridor intercity rail service
22629		New Vallejo Ferry Terminal intermodal facility
22985		Benicia Intermodal Transportation station
Financially Constrained Element: New Commitment Projects		
21134	23	Rapid Bus Transit (RBT) in San Pablo Corridor
21144	26	I-80/Gilman Ave. I/C impvts
21209	18	Hercules Transit Center relocation and Expn
21210	16	Capitol Corridor train station in Hercules
21807	12	Widen I-80 from I-680 to Air Base Pwy to 10 lns
22038	27	San Francisco-Oakland Bay Bridge toll plaza HOV bypass lns
22455	29	AC Transit BRT and Enhanced Bus: Telegraph Ave/International Blvd corridor
22603	20	Richmond intermodal transfer station
22634	9	Vacaville intermodal station
22700	10	Construct parallel corridor N of I-80 from Red Top Rd to Abernathy Rd
22701	13	I-80/I-680/Rte 12 I/C impvts
22703	2	I-80/I-680/I-780 corridor mid-term capacity and operation impvts
22794	15	Curtola Transit Center impvts
22795	11	Fairfield Transportation Center impvts
22898	8	Widen I-80 from W of Meridian Rd to W of Kidwell Rd to 8 lns
94148	4	Construct rail station and track impvts for Amtrak Capitol Corridor
94151	7	Construct 4-ln Jepson Pwy from Rte 12 to Leisure Town Rd
98157	22	Enhancements to AC Transit bus service for San Pablo corridor

Chapter One: Introduction and Project Description
Section 1.2: Overview of the Proposed Transportation 2030 Plan

Table 1.2-4 Eastshore North Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Vision Element Projects		
21153	25	AC Transit bus corridor imprvts in Oakland, Berkeley and San Leandro
21160	28	AC Transit mjr corridor enhancements
22355	24	* I-80/Central Ave I/C modifications
22358	17	I-80/Rte 4 I/C imprvts
22360	21	* I-80/San Pablo Dam Rd I/C reconstruction
22516	6	Enhance Capitol Corridor Rgnl rail service
22702	14	* I-80/I-680/Rte 12 I/C imprvts: truck scales and aux Inslns
22716	19	* Vallejo Baylink ferry service capital and operation
22717	3	* I-80/I-680/I-780 corridor imprvts
22988	1	* Commuter Rail Service - Sacramento to Oakland (capital and operating)

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Figure I.2-10
Eastshore-North Corridor



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics

 State Highway

 Interstate Highway

 U.S. Highway



Table I.2-5: Delta Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Financially Constrained Element: Committed Projects		
21212		Construct aux Ln along EB Rte 4 and widen Hillcrest Ave EB off-ramp to 2 lns
22601		Rte 4 Bypass, Segment 3: construct a 2-Ln facility from Balfour Rd to Walnut Blvd, and upgrade Marsh Creek Rd
94531		Widen Rte 4 to 6 mixed flow lns and 2 HOV lns from Bailey Rd to RailRd Ave
96022		Rte 4 Bypass, Segment 1
98104		Widen Rte 4 from RailRd Ave to Loveridge
98142		Widen Rte 4 to 8 lns with HOV lns from Loveridge Rd to Somersville Rd
98221		Rte 4 Bypass, Segment 2
21211		BART/E Contra Co station rail extension
Financially Constrained Element: New Commitment Projects		
94050	1	Upgrade Rte 4 to full fwy from I-80 to Cummings Skyway
98222	5	Rte 4 Bypass, Segment 1: Rte 160 Fwy-to-Fwy connectors
98999	4	Widen Rte 4 E to 8 lns from Somersville Rd to Rte 160
Vision Element Projects		
22011		* BART/E Contra Costation rail extn
22346		* Express bus service expansion along I-580 corridor
22390	2	*Reconstruct Rte 4/Willow Pass Rd ramps in Concord
22392	3	Rte 4/Range Rd I/C construction
22400		Construct Rte 239 from Brentwood to Tracy Expy
22604	8	*Construct safety and operational impvts on Vasco Rd from Brentwood to Alameda Co line
22605	6	*Rte 4 Bypass, Segments 2 and 3: widen and upgrade to full fwy
22607		*Major street station widening, extentions and I/C improvements in East Contra Costation Co
22981	7	*Widen Rte 4 from Marsh Creek Rd to San Joaquin Co line

Figure 1.2-11
Delta Corridor



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics



Table I.2-6: Diablo Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Financially Constrained Element: Committed Projects		
22353		I-680 SB HOV gap closure btwn N Main St and Livorna
94051		I-680 aux Ln from Diablo Rd to Sycamore Valley Rd in Danville and from Crow Canyon Rd to Bollinger Canyon Rd in San Ramon
94052		I-680 HOV Ins from Marina Vistation I/C to N Main St (SB) and from Rte 242 NB to the Marina Vistation I/C
98132		Widen and extend Bollinger Canyon Rd to 6 Ins from Alcosta Blvd to Dougherty Rd
98134		Widen Dougherty Rd to 6 Ins from Red Willow to Contra Costa Co line
98135		Construct Windermere Pwy: 4 Ins from Bollinger Canyon Rd extn to E Branch
98136		Construct E Branch as 4 Ins from Bollinger Canyon Rd extn to Camino Tassajara
94150		I-80/I-680/Rte 12 I/C impvts
94054		Martinez Intermodal Terminal Facility
Financially Constrained Element: New Commitment Projects		
21205	6	I-680/Rte 4 I/C Fwy-to-Fwy direct connectors
21206	12	Caldecott Tunnel fourth bore
21207	2	Martinez Intermodal Terminal Facility
22602	18	Construct I-680 aux Ins from Sycamore Valley Rd to Crow Canyon Rd
98130	9	Widen Alhambra Ave from Rte 4 to McAlvey Dr to 4 Ins
98133	10	Widen Pacheco Blvd from Blum Rd to Arthur Rd to 4 Ins
98194	7	Ext Commerce Ave btwn Pine Creek and Waterworld Pwy
98196	13	Rte 24 E aux Ins from Gateway Blvd to Brookwood Rd/Moraga Way
Vision Element Projects		
21036	16	Add'l I-680 aux Ins S of I-680/Rte 24 I/C
21223	15	* I-680 transit corridor impvts
22342	20	* Express bus service Expn along I-680 corridor
22350	5	*** I-680/Rte 4 I/C impvts
22351	14	*** I-680 N HOV gap closure btwn N Main St and Rte 242
22352	19	*** I-680/Norris Canyon Rd HOV direct ramps in San Ramon
22354	3	* I-680/Marina Vistation I/C impvts
22365		* Martinez Ferry landside impvts
22375	4	Rte 24 and I-680 TOS and fiber optic cable project
22388	11	* Construct Rte 242/Clayton Rd N on-ramp
22389	8	* Construct Rte 242/Clayton Rd S off-ramp
22402		* School bus prgms in San Ramon and Lamorinda
22609		* Major street widening, extns and I/C impvts in Central Contra Costation Co
22612	17	*** I-680/Sycamore Valley Rd direct HOV ramps in Danville
22614	1	Martinez Intermodal Station

Figure 1.2-12
Diablo Corridor



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics



Table 1.2-7: Tri -Valley Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Financially Constrained Element: Committed Projects		
21456		I-580 aux Ins btwn Santa Rita Rd/Tassajara Rd and Airway Blvd I/Cs
22785		Construct I-580 EB aux Ln from First St to Vasco Rd
22786		Install ramp metering on all existing ramps along I-580 in Livermore
22787		Realign Isabel/Vallecitos intersection for through movement on Rte 84
94024		Auto/truck separation Ln at I-580/I-205 I/C
21100		I-580/Vasco Rd I/C impvts
21455		Widen I-238 btwn I-580 and I-880 from to 6 Ins
21133		New W Dublin/Pleasanton BART station
Financially Constrained Element: New Commitment Projects		
21085	11	I-580 TOS
21105	6	I-580/Isabel I/C impvts
22013	7	I-580 corridor impvts
22092	1	Alameda Co TOS and ramp metering from Dublin to I-880
22657	8	I-205/I-580 Altamont Pass WB truck Ln
22776	9	Widen Rte 84 to 4 Ins from N of Pigeon Pass to Vineyard Ave and to 4 or 6 Ins from Vineyard Ave to Jack London Blvd
22777	3	I-580 on- and off-ramp impvts in Castro Valley
Vision Element Projects		
22088		I-580/I-680 I/C truck bypass Ins
22664	4	** I-580 HOT Ins from Greenville Rd W to I-680
22666	10	** Rte 84 HOT Ins in Tri-Valley
22667	5	Tri-Valley rail extn from Dublin/Pleasanton BART station to Greenville Rd in the I-580 median

Figure I.2-13
Tri-Valley Corridor



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics

-  State Highway
-  Interstate Highway
-  U.S. Highway



Table I.2-8: Sunol Gateway Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

<i>Project ID</i>	<i>Map ID</i>	<i>Description</i>
Financially Constrained Element: Committed Projects		
21470		I-680/Sunol Blvd ramp impvts
21472		I-680/Bernal Ave I/C impvts
98140		I-680 Sunol Grade SB HOV Ins, ramp metering and aux ln from Rte 84 to Rte 237
Financially Constrained Element: New Commitment Projects		
22064	2	Convert SB HOV Ln on I-680 btwn Rte 84 and Rte 237 to HOT ln
22897	3	Widen I-680 NB for an HOV Ln from Rte 84 to Calaveras Blvd
98139	1	ACE Station/track impvts in Alameda Co

Figure I.2-14
Sunol Gateway Corridor



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics

-  State Highway
-  Interstate Highway
-  U.S. Highway



Table 1.2-9 Eastshore South Corridor

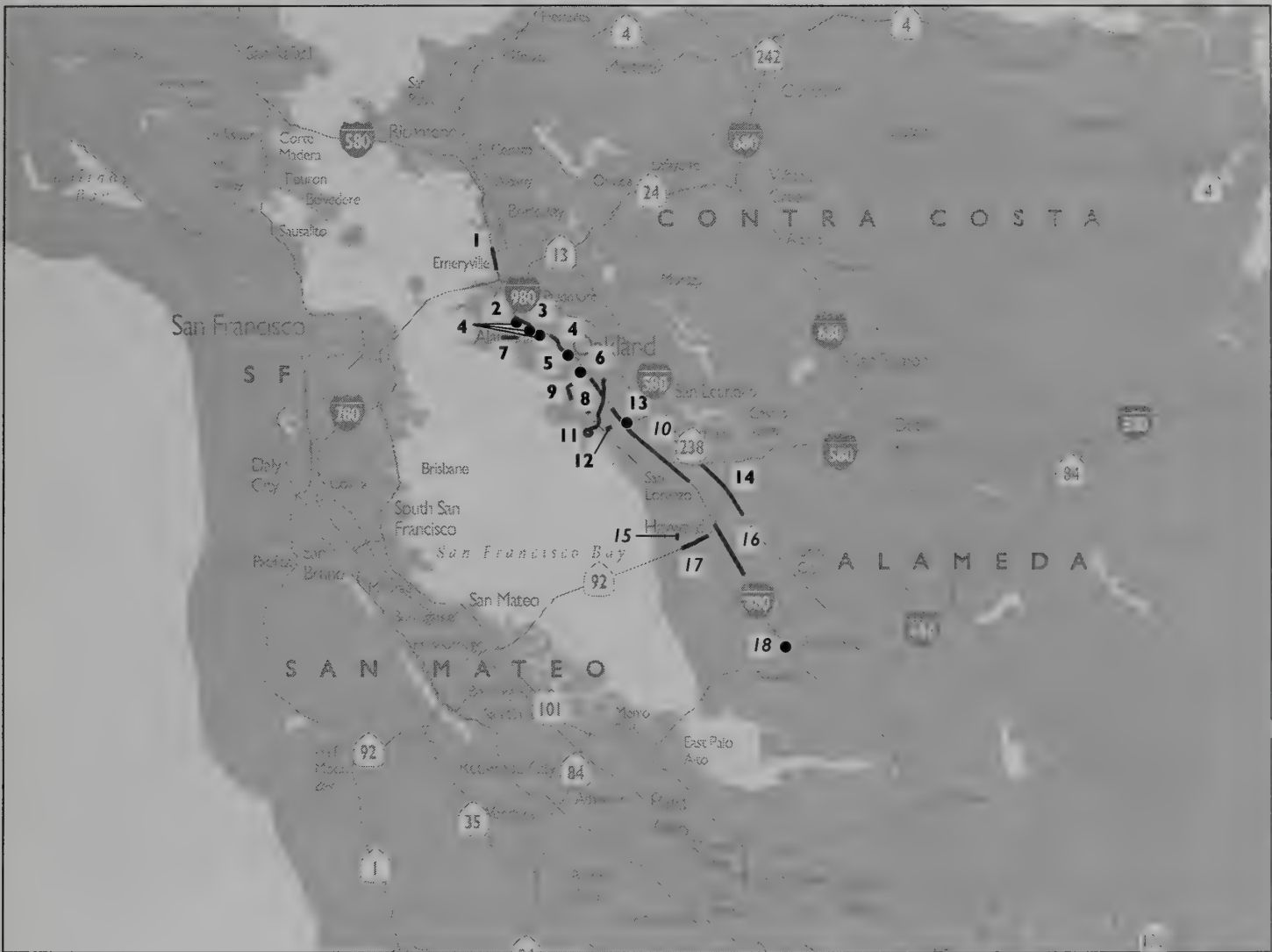
**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Financially Constrained Element: Committed Projects		
21451		E 14th St/Hesperian Blvd/150th St channelization impvts
21466		Washington Ave/Beatrice St I/C impvts
Financially Constrained Element: New Commitment Projects		
21101	8	Extend Tinker Ave. from Webster St to 5th Ave.
21107	7	I-880/High St I/C impvts
21131	12	BART-Oakland Intl Airport connector
21157	1	I-80/Ashby Ave/Shellmound St I/C modifications
21185	13	Extend Eden Rd from Doolittle Dr to San Leandro water pollution control plant
22063	15	Rte 238 corridor impvts btwn Foothill Blvd/Mattox Rd to Mission Blvd/Industrial Pkwy
22084	10	Oakland International Airport N Field access road
22100	15	Replace I-880/Davis St overcrossing
22760	2	Outer Harbor intermodal terminal
22761	19	I-880 from Hegenberger Rd to I-980 operation impvts
22763	3	Reconstruct SB I-880 on- and off- ramps with I-880/5th St seismic retrofit
22764	9	Construct aux Ln on I-880 btwn Hegenberger Rd and 66th Ave
22769	5	I-880/29th Ave I/C safety and access impvts
98207	4	I-880/Broadway-Jackson I/C impvts
Vision Element Projects		
21093	18	Rte 92/Clawiter Rd/Whitesell St I/C impvts
22005		ACE service expansion to eight trains
22086		I-880 incident mgmt, ramp metering, and traveler info
22087		I-880/Oak St on-ramp reconstruction
22106	16	Extend Whitesell St as a 4-Ln arterial from Enterprise to Depot Rd
22660	17	Widen I-880 by adding one Ln in each direction btwn Whipple and Jackson
22670	11	** Widen I-880 for HOV Ins NB from Hacienda overcrossing to 98th Ave and SB from 98th Ave to Marina Blvd
22671	20	** Construct direct HOV connection btwn SB I-880 to WB Rte 84
22673	6	I-880 modernization and ramp reconfiguration in Oakland

Figure 1.2-15
Eastshore-South Corridor



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics

-  State Highway
-  Interstate Highway
-  U.S. Highway



Table 1.2-10: Fremont-South Bay Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Financially Constrained Element: Committed Projects		
21125		Rte 84 WB HOV Ln extn from Newark Blvd to I-880.
21126		Rte 84 WB HOV on-ramp from Newark Blvd
21480		Rte 84/Ardenwood Blvd WB offramp intersection impvts
21483		Widen Stevenson Blvd from I-880 to Blacow Rd to 6 Ins
21484		Widen Kato Rd from Warren Ave to Milmont Dr
21487		Widen Mowry Ave from Mission Blvd to Peralta Blvd
22991		Widen I-680 for SB HOV/HOT Ln from Rte 237 to Rte 84
94030		Reconstruct I-880/Rte 262 I/C and widen I-880 from Rte 262 (Mission Blvd) to the Santa Clara Co line to 10 Ins
94506		Widen Rte 84 to 6-Ln Pwy from I-880 to Paseo Padre and 4-Ln Pwy from Paseo Padre to Mission Blvd along the Historic Pkwy alignment
21921		BART extn into Santa Clara Co (design, prelim engineering, ROW)
Financially Constrained Element: New Commitment Projects		
21123	3	Union City Intermodal Station infrastructure impvts
21132	7	BART extn to Warm Springs
22015		I-680/I-880 cross connector
22042	4	Widen I-680 for NB HOV Ln from Rte 237 to Stoneridge Dr
22062	6	Construct infrastructure for future Irvington BART Station
22805	9	Widen Dixon Landing Rd from 4 to 6 Ins btwn N Milpitas Blvd and I-880
22990	8	Widen Rte 262 from I-880 to Warm Springs Blvd
94012	2	Union City Intermodal Station
Vision Element Projects		
22432	5	Construct Irvington BART Station
22668	1	Add NB and SB I-680 HOV Ins btwn Rte 84 in Alameda Co to Alcosta Blvd in Contra Costa Co
22800	10	BART extn into Santa Clara Co (construction)

Figure 1.2-16
Fremont-South Bay Corridor



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics

-  State Highway
-  Interstate Highway
-  U.S. Highway



Table 1.2-11: Silicon Valley Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Financially Constrained Element: Committed Projects		
21760		Double-track segments of the Caltrain line btwn San Jose and Gilroy
21787		Palo Alto Intermodal Transit Center
21794		Bus Rapid Transit corridor: El Camino Real
21797		Rte 17 bus service impvts btwn downtown San Jose and downtown Santa Cruz
21922		San Jose International Airport connections to Guadalupe LRT
21923		New BRT Corridor: Stevens Creek Boulevard, El Camino Phase IIIB and Monterey Highway
22014		Downtown E Valley: Santa Clara/Alum Rock and Capitol Expy to Nieman
98119		Vasona Corridor light rail extn from downtown San Jose to Winchester Blvd in Campbell
98121		Increase Caltrain service from San Jose to Gilroy, includes Caltrain corridor facilities and service impvts
Financially Constrained Element: New Commitment Projects		
20002	69	Rte 85 noise mitigation
21705	22	Rte 237/El Camino Real/Grant Rd intersection impvts
21713	10	Construct aux ln on E Rte 237 from N First St to Zanker Rd
21714	81	Widen US 101 btwn Monterey Hwy and Rte 25; construct a full I/C at US 101/Rte 25/Santa Teresa Blvd
21716	8	Widen Rte 237 to 6 lns btwn Rte 85 and E of Mathilda Ave
21717	82	Widen Rte 25 from US 101 to Rte 156 to 6 lns
21718	24	Rte 85 aux lns btwn Homestead Ave and Fremont Ave
21719	56	I-880/I-280/Stevens Creek Blvd I/C impvts
21720	71	US 101/Tennant Ave I/C impvts
21722	27	US 101 SB Trimble Rd/De La Cruz Blvd/Central Expy I/C impvts
21723	46	US 101/Tully Rd I/C modifications
21724	28	Widen US 101 for NB and SB aux ln from Trimble Rd to Montague Expy
21749	72	Ext Butterfield Blvd from Tennant Ave to Watsonville Rd
22010	30	Construct I-280 NB second exit ln to Foothill Expy
22012	16	Rte 237 EB aux ln impvt from N First St to Zanker Rd
22018	4	US 101/Mathilda Ave I/C impvts
22118	70	Extend Hill Rd to Peet Ave
22134	47	Widen US 101 SB from Story Rd to Yerba Buena Rd
22138	83	Widen US 101 to 4 lns from Rte 25 to Santa Clara/San Benito Co line
22140	73	Widen US 101 btwn Cochrane Rd and Monterey Hwy from 6 lns to 8 lns
22142	53	US 101/Capitol Expy I/C impvts (includes new NB on-ramp from Yerba Buena Rd)

Chapter One: Introduction and Project Description
Section 1.2: Overview of the Proposed Transportation 2030 Plan

Table 1.2-11: Silicon Valley Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

<i>Project ID</i>	<i>Map ID</i>	<i>Description</i>
22145	14	Widen WB Rte 237 on-ramp from Rte 237 to NB US 101 to 2 Ins and add aux Ln on NB US 101 from Rte 237 on-ramp to Ellis St I/C
22153	5	Ext Mary Ave N at Rte 237
22156	15	Rte 85 NB to SR 237 EB connector ramp impvts
22162	12	Rte 237 WB to Rte 85 SB connector ramp impvts
22164	1	Rte 237 WB on-ramp at Middlefield Rd
22169	63	Widen Coleman Ave from Hedding St and a future Autumn St extn from 4 Ins to 6 Ins
22170	26	Construct I-880 overcrossing on Charcot Ave btwn Paragon Dr and Old Oakland Rd as a reliever Rte to Montague Expy and Brokaw Rd
22171	65	Ext Autumn St from Julian St to Coleman Ave to connect I-880 to W part of downtown San Jose
22175	67	Widen Almaden Expy btwn Coleman Rd and Blossom Hill Rd to 8 Ins
22176	32	Widen Berryessa Rd from I-680 to Commercial St from 4 Ins to 6 Ins
22177	57	Widen Branham Ln from Vistation Park Dr to Snell Ave from 4 Ins to 6 Ins
22178	17	Replace 4-Ln structure with 6-Ln bridge on CalAveras Blvd over Union Pacific Rail Rd from Abel St to Milpitas Blvd
22179	13	Widen Central Expy btwn Lawrence Expy and San Tomas Expy from 4 Ins to 6 Ins
22180	31	Widen Central Expy btwn Lawrence Expy and Mary Ave to provide aux acceleration and/or deceleration Ins
22181	68	Construct 4-Ln bridge over Guadalupe River btwn Almaden Expy and Fell Ave to connection sections of Chynoweth Ave
22182	77	Gilman Rd/Arroyo Circle traffic signal and intersection impvts
22183	41	Widen Lucretia Ave from 2 Ins to 4 Ins from Story Rd to Phelan Ave
22185	21	Widen Oakland Rd from 4 Ins to 6 Ins from US 101 to Montague Expy
22186	40	Widen San Tomas Expy btwn Rte 82 and Williams Rd to 8 Ins
22422	52	Widen Senter Rd btwn Tully Rd and Capitol Expy to 6 Ins
22823	59	Widen Snell Ave from 4 Ins to 6 Ins from Branham Ln to Chynoweth Ave
22830	80	Widen First St/Rte 152 to add one EB Ln from Church St to Monterey St
22832	78	Widen Rte 152 from 2 Ins to 4 Ins from Miller Slough to Holsclaw Rd
22834	6	Widen Rte 237 for EB aux Ln from Mathilda Ave to Fair Oaks Ave
22836	45	Widen Quito Rd btwn Saratoga Ave and Bucknall Rd
22838	43	Study of Lawrence Expy/Calvert/I-280 I/C impvts
22842		Rte 9 bike Ins from Saratoga through Monte Sereno to Los Gatos
22843	55	Develop HOT Ln demonstration project on one Fwy corridor in Santa Clara Co
22845	2	Rte 152/Ferguson Rd intersection impvts
22847	61	Widen Lawrence Expy btwn Moorpark/Bollinger and S of Calvert to 8 Ins
22857	37	Widen US 101 for a SB aux Ln from I-880 to McKee Rd/Julian St
22858	64	Widen Union Ave from Los Gatos-Almaden Rd to Ross Creek to 4 Ins

Table 1.2-11: Silicon Valley Corridor

*=Financially Constrained + Sales Tax Alternative

Note: Committed and programmatic projects are NOT mapped.

**=Financially Constrained + HOT Alternative

Project ID	Map ID	Description
22871	79	Ext 2-Ln Uvas Park Dr from Laurel Dr to Wren Ave
22874	29	Rte 85/Fremont Ave ramp impvts
22881	19	Construct aux Ln on SB Lawrence Expy btwn WB Rte 237 and SB Lawrence Expy
22888	48	Widen King Rd to 4 Ins from Aborn Rd and Barberry Ln
22892	25	Widen US 101 SB aux Ln from Great America Pwy to Lawrence Expy
22893	36	Widen US 101 for a NB aux Ln from McKee/Julian St to I-880
22894	35	US 101 Mabury Rd/Taylor St new I/C
22979	44	US 101/Zanker Rd/Skyport Dr/Fourth St I/C impvts
98103	62	Construct aux Ln on NB Rte 17 from Camden Ave to Hamilton Ave
98175	20	Widen Montague Expy from 6 Ins to 8 Ins from I-680 to US 101
Vision Element Projects		
21702	76	US 101/Buena Vistation Ave I/C construction
21704	42	Improve I-280 downtown access btwn 3rd St and 7th St
21708	39	Add I-280 NB braided ramps btwn Foothill Expy and Rte 85
21770	84	Extend Caltrain from Gilroy to Salinas
22017	9	Construct Rte 237 EB to Mathilda Ave flyover offramp
22019		Downtown E Valley: Santa Clara/Alum Rock and Capitol Expy to Nieman
22020	51	US 101 NB braided ramps btwn Capitol Expy and Yerba Buena Rd
22091	74	Upgrade Rte 152 to a limited access 4-Ln Fwy
22127	49	Rte 85 NB and SB aux Ins from Stevens Creek Blvd to Saratoga/Sunnyvale Rd
22128	58	Rte 85 NB and SB aux Ins from Saratoga/Sunnyvale Rd to Saratoga Ave
22130	60	Rte 85 NB and SB aux Ins from Saratoga Ave to Winchester Blvd
22147	33	US 101 I/C at Zanker Rd/Skyport Dr/N Fourth St
22158	23	Rte 85 aux Ins btwn Fremont Ave and El Camino Real
22161	18	Rte 85 aux Ins btwn El Camino Real and Rte 237, and Rte 85/El Camino Real I/C impvts
22165	3	US 101 SB to Rte 237 EB aux Ln impvts
22167	50	US 101 SB braided ramps btwn Capitol Expy and Yerba Buena Rd
22905	54	Improve Senter Rd btwn Singleton Ave and Monterey Hwy
22911	75	Widen Farrell Ave Bridge to 2-Ln facility
22922	11	Calaveras Rd impvts
22958	7	US 101 SB to EB Rte 237 connector impvts
22960	66	Widen Almaden Rd from Malone Rd to Curtner Ave
22965	34	US 101/Mabury Rd/Taylor St I/C construction
22983	38	US 101/Zanker Rd/Skyport Dr/Fourth St I/C construction

Figure I.2-17
Silicon Valley Corridor



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics



Table I.2-12: Peninsula Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Financially Constrained Element: Committed Projects		
21349		US 101/Ralston Ave I/C improvement
21606		US 101/ Willow Rd I/C reconstruction
21607		US 101/University Ave I/C reconstruction
21608		US 101 NB and SB aux Ins from Marsh Rd to Santa Clara Co line
94100		US 101 aux Ins from Marsh Rd to Rte 92
94656		Devil's Slide bypass
98176		US 101 aux Ins from 3rd Ave to Millbrae and US 101/Peninsula Ave I/C reconstruction
21549		Construct access route linking Hunters Point Shipyard Redvlpmt Area to US 101
21605		US 101/Oyster Point Blvd I/C impvts (Phases 2 and 3)
94643		Widen Rte 92 btwn Rte 1 and Half Moon Bay city limits
98204		Construct Rte 1 NB and SB Ins from Fassler Ave to Wport Dr in Pacifica
21617		Caltrain Express service btwn San Francisco and San Jose (Phase I)
Financially Constrained Element: New Commitment Projects		
21602	29	US 101/Broadway I/C reconstruction
21603	44	US 101/Woodside Rd I/C impvts
21612	42	Impvt of Dumbarton Bridge access to US 101
21613	41	Rte 92 impvts from San Mateo Bridge to I-280
21615	17	I-280/Rte 1 I/C safety impvts
21619	5	Caltrain Express tracks
21627	3	Caltrain electrification from San Francisco to Gilroy
22125	1	Ferry service from S San Francisco to San Francisco
22226	10	Intermodal transit impvts at Caltrain Bayshore Sta
22230	15	Study of I-280 aux Ins from I-380 to Hickey Blvd
22236	34	Study of Hillsdale Transit Center relocation
22239	24	Study of Manor Dr/Rte 1 overcrossing widening and impvt project
22261	28	Rte 1/San Pedro Creek Bridge replacement project
22282	32	Widen US 101 SB by adding 5th Ln from WB Rte 92 loop on-ramp to Ralston Ave off-ramp
22756	4	US 101/Candlestick I/C reconstruction
98203	37	Study of Rte 1 in Half Moon Bay area operational and safety impvts

Chapter One: Introduction and Project Description
Section 1.2: Overview of the Proposed Transportation 2030 Plan

Table 1.2-12: Peninsula Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Vision Element Projects		
21604	18	* US 101 aux lns from Sierra Point to San Francisco Co line
21609	26	* I-280/I-380 local access impvts from Sneath Ln and San Bruno Ave to I-380
21610	22	* US 101 aux lns from San Bruno Ave to Grand Ave
21892	45	* Widen Rte 84 from 4 lns to 6 lns from El Camino Real to Broadway
21893	36	* Rte 92 btwn Half Moon Bay city limits and Pilarcitos Creek ; shoulder impvts
22227	8	* Extend Geneva Ave from Bayshore Blvd to US 101/Harney ramps to 6 lns
22228	13	* Extend Lagoon Way to connect to US 101, Bayshore Blvd and Guadalupe Canyon Pwy
22229	20	* US 101/Sierra Point Pwy I/C replacement
22231	7	* Widen N side of John Daly Blvd/I-280 overXing for add'l WB traffic Ln and dedicated right-turn Ln for SB I-280 off-ramp
22267	33	* Union Pacific RailRd right-of-way acquisition for transit, bicycle and pedestrian use
22271	27	* Widen Skyline Blvd (Rte 35) to 4-Ln Rdway from I-280 to Sneath Ln
22273	2	* US 101/Candlestick I/C reconstruction
22279	23	* US 101/Produce Ave I/C project
22622	25	* Manor Dr/Rte 1 overcrossing widening and impvt project
22723	43	* Impvt of Dumbarton Bridge access to US 101 (Phase 2)
22724	31	* Improve Rte 92 from San Mateo Bridge to I-280
22725	12	* I-280/Rte 1 I/C impvts
22726	6	* S San Francisco to Alameda ferry service
22727	30	* US 101/Peninsula Ave SB ramps
22728	9	* Bayshore intermodal facility impvts
22729	16	* I-280 aux lns from I-380 to Hickey Blvd
22732	35	* Hillsdale Transit Center relocation
22735	11	I-280 N and I-380 ramp metering/TOS/fiber communications project
22736	39	I-280 S and Rte 92 ramp metering/TOS/fiber communications project
22739	19	* US 101 operational impvts near Rte 92
22741	14	* Caltrain Express tracks (San Mateo Co)
22751	38	* Rte 1 operational and safety impvts in Half Moon Bay area
22901	21	US 101 N and Rte 92 ramp metering/TOS/fiber communications project
94644	40	* Rte 92 WB slow vehicle Ln btwn Rte 35 and I-280

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Figure I.2-18
Peninsula Corridor



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics

-  State Highway
-  Interstate Highway
-  U.S. Highway



Table 1.2-13: San Francisco Corridor

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Project
Financially Constrained Element: Committed Projects		
22415		Expand historic Streetcar service
94632		Third St Light Rail extn to Bayview Hunters Point
22255		Construct Illinois St Intermodal Bridge across Islais Creek to connect to Port of San Francisco's Pier 80 cargo terminal
22412		Additional LRVs to exp MUNI rail service
22982		Transit enhancements prgm
Financially Constrained Element: New Commitment Projects		
21342	3	Caltrain downtown extn/Transbay Terminal replacement (prelim engineering, ROW)
21510	2	Third St light-rail transit ext to Chinatown
Vision Element Projects		
22008	1	Caltrain Downtown extn/TransBay Terminal Replacement (construction)

San Francisco Corridor

Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics



Table 1.2-14: Transbay Corridors

**=Financially Constrained + Sales Tax Alternative*

Note: Committed and programmatic projects are NOT mapped.

***=Financially Constrained + HOT Alternative*

Project ID	Map ID	Description
Financially Constrained Element: Committed Projects		
94514		I-880/Rte 92 I/C impvts
21417		Dumbarton Express park-and-ride
Financially Constrained Element: New Commitment Projects		
21149	8	Upgrade Express bus services in Dumbarton corridor
21618	11	Dumbarton rail corridor
22002	3	Extend HOV Ln on I-880 NB from existing HOV terminus at Bay Bridge approach to Maritime on-ramp
22509	6	Alameda/Oakland to San Francisco ferry service and Harbor Bay to San Francisco ferry service
22511	4	Berkeley/Albany to San Francisco ferry service
Vision Element Projects		
22120	7	* Ferry service from Redwood City to San Francisco to Alameda
22122	2	* Ferry service in western Contra Costa Co
22510	1	Antioch/Pittsburg to Martinez to San Francisco ferry service
22512	5	Treasure Island to San Francisco ferry service
22615	9	* Dumbarton Rail Corridor and Station impvts
22719	10	* Dumbarton rail corridor (Phase 2)

Figure I.2-20
Transbay Corridors



Projects in the Financially Constrained Element are shown in bold, and projects in the Vision Element are shown in italics

-  State Highway
-  Interstate Highway
-  U.S. Highway



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Part Two

Settings, Impacts, and Mitigation Measures

Part 2: Settings, Impacts, and Mitigation Measures

INTRODUCTION

This part contains the summary of existing environmental conditions (settings) and analysis of environmental impacts of the proposed Transportation 2030 Plan, as described in Chapter 1.2. This part is organized by issue area; and within each issue area, the environmental setting (both physical and regulatory settings) is described, significance criteria are established, and impact analysis is conducted. For each potentially significant impact, mitigation measures are identified. Please note that impacts of project alternatives are presented and compared in Chapter 3.1.

METHODOLOGY & ASSUMPTIONS

In order to assess the effects of the proposed Transportation 2030 Plan, it is necessary to make assumptions about future environmental conditions at the time the Plan is fully implemented. Since implementation of the Plan would be spread over 25 years, the horizon year is 2030. In this approach, the physical components of the proposed Transportation 2030 Plan can be compared to future baseline conditions in 2030.

Other key assumptions in the impact analysis include the following:

- The base year or existing conditions for the analysis is 2000, as that is the year for which MTC has the most current validated travel demand model for the transportation network.
- ABAG's adopted *Projections 2003* forms the basis for developing future baseline population and employment scenarios for the Proposed Project. See Chapter 2.11 (Growth Inducing Effects) and Appendix E for further details on growth projections.
- Both the air quality and transportation analyses evaluate the effects of the proposed Transportation 2030 Plan investments assuming the projected population and employment growth in the region and its effect on generating increased travel. Thus, for these two issue areas, the travel demand and associated air emissions produced for the proposed project conditions is considered identical to the cumulative condition for CEQA purposes.
- The existing conditions scenario is based on transit service levels in 2000, while the No Project alternative assumes 2004 transit service levels. Because of the economic downturn after 2000, the 2004 transit service levels reflect some significant service cutbacks. The No Project alternative assumes that the region will only be able to afford the 2004 service levels in 2030 despite the fact that more people will be using the transportation network overall.

- This analysis does not consider phasing of improvements or interim stages of the proposed Transportation 2030 Plan between 2000 and 2030, as the purpose of the analysis is to evaluate the Plan as a whole.
- As a program level EIR, individual project impacts are not addressed in detail; the focus of this analysis is to address the impacts of projects, which, individually or in the aggregate, may be regionally significant. Individual projects will be subject to subsequent environmental review and development of site-specific mitigation measures, as required by CEQA and/or NEPA. MTC will require compliance with CEQA and NEPA (if applicable) prior to approving projects for funding.

IMPACT SIGNIFICANCE

In many cases, the significance criteria require comparison of the Proposed Project to the No Project Alternative, as the No Project Alternative represents the “future baseline.” However, in all cases, the Proposed Project is first compared to existing conditions, as required by CEQA.

For each issue area, criteria of significance are established, based on normally accepted standards for environmental review and State CEQA guidelines. Impacts are individually numbered within each issue area and are classified as follows based on the assessment of the impact before applying mitigation:

Significant, unavoidable: cannot be mitigated to a level that is less than significant;

Significant, mitigable: can be mitigated to a level that is less than significant;

Adverse (or less than significant): does not exceed the significance criteria or threshold; or

Beneficial: a positive impact or effect, relative to the current environmental conditions.

For each impact that is classified as significant, mitigation measures are recommended. The effectiveness of recommended mitigation measures is assessed and the residual impact after mitigation is identified.

MITIGATION

A majority of the improvements identified in the proposed Transportation 2030 Plan will be undertaken by other agencies. Therefore, many of the mitigation measures will be the responsibility of the agencies implementing a specific transportation project or program.

ORGANIZATION OF IMPACT ANALYSES

Each impact area is analyzed in a separate chapter. Each chapter is organized as follows:

- Environmental setting – both the physical setting or existing conditions and the regulatory setting applicable to the individual issue area;
- Criteria of significance – the environmental thresholds used as the basis for determining the significance of potential impacts;
- Method of analysis – a description of the methodology used to assess impacts within a particular issue area;
- Summary of impacts – a brief summary of potential short-term and long-term direct and cumulative effects; and
- Impacts and mitigation measures – individually numbered impact statements (including identification of both proposed project and cumulative effects) and corresponding mitigation measures.

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2.1 Transportation

This chapter describes the current transportation conditions and examines the effects of the proposed transportation improvements in transit, freeways and local roads, and operational strategies in the proposed Transportation 2030 Plan on travel conditions in 2030. For analytic purposes in this EIR, the year 2000 is the base year (existing conditions), while the year 2030 is the horizon year (future conditions) when the proposed Transportation 2030 Plan will be fully implemented.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Existing Transportation Conditions (2000)

The Bay Area currently contains over 19,600 miles of local streets and roads, and over 1,400 miles of state highways. In addition, there are over 9,040 transit route miles of service¹ including rapid rail, light rail, commuter, diesel and electric buses, cable cars and ferries. The Bay Area also has an extensive local system of bicycle routes and pedestrian facilities (paths and sidewalks).

As displayed on Table 2.1-1, cars, buses and commercial vehicles travel about 143 million miles a day on the Bay Area freeways and local roads, and transit serves about 1.7 million riders on the average weekday. As shown on Table 2.1-2, of the trips made by Bay Areas residents, 25 percent are for work, 24.7 percent for shopping and other activities, 11.7 percent for recreation, and 10.9 percent for school. Furthermore, the average one-way commute distance for the region is about 11.6 miles, as shown in Table 2.1-3. San Francisco residents have the shortest average one-way commute distance (7.2 miles), while Solano County residents have the longest average one-way commute distance (18.2 miles).

Table 2.1-1: Bay Area Travel Behavior, 2000

Daily Transit Boardings ¹	1,714,300
Daily Vehicle Trips ²	17,098,100
Daily Vehicle Miles of Travel (VMT)	143,495,300
Daily Vehicle Hours of Delay	355,600
Average Delay per Vehicle (Minutes)	1.2

¹Daily transit boardings includes transfer boardings

²Includes interregional trips

Source: Metropolitan Transportation Commission, 2004

¹ Transit route miles in service estimate is based on a 2001 transit network. Service cuts have occurred regionwide since 2001.

Table 2.1-2: Trip Purpose, 2000

	2000	% of Total
Work	5,248,300	25.0%
Shop/Other	5,201,100	24.7%
Social/Recreation	2,469,200	11.7%
School	2,294,600	10.9%
Other*	5,820,700	27.7%
Total	21,033,800	100.0%

*Other refers to non-home-based trips (such as work-based errands)

Source: Metropolitan Transportation Commission, 2004

Table 2.1-3: Average One-Way Commute Distance (in Miles) by County, 2000

County of Residence	Commute Distance
Alameda	11.6
Contra Costa	15.5
Marin	11.5
Napa	11.6
San Francisco	7.2
San Mateo	10.6
Santa Clara	9.8
Solano	18.2
Sonoma	15.0
Regional Average	11.6

Source: Metropolitan Transportation Commission, 2004

Travel Trends: Transportation Modes, Travel Time to Work, and Commute Patterns

According to the U.S. Census, Bay Area residents use a range of transportation modes to get to their work places, as demonstrated in Table 2.1-4. At a regional level, the share of workers driving alone to work has been fairly constant over the past ten years, decreasing from 68.2 percent of commuters in 1990 to 68.0 percent of commuters driving alone to work in 2000. Likewise, the carpool share of commuters has been very stable, declining from 13.0 percent in 1990 to 12.9 percent in 2000. Transit commuter shares have increased slightly, from 9.5 percent in 1990 to 9.7 percent in 2000. Commuters walking to work showed the most significant decrease in the commuter share, decreasing from 3.6 percent of Bay Area commuters in 1990 to 3.2 percent in 2000. In addition, other modes (bicycle, motorcycle, and other) declined in share as well, from 2.3 percent in 1990 to 2.2 percent in 2000. Interestingly, the number of Bay Area residents working from home has increased from 3.4 percent of all Bay Area workers in 1990 to 4.0 percent in 2000.

Part Two: Settings, Impacts, and Mitigation Measures
Chapter 2.1: Transportation

Table 2.1-4: Bay Area Resident Workers by Means of Transportation to Work, 1990 - 2000

Year	Drive Alone	% of Total	Carpool	% of Total	Transit	% of Total	Walk	% of Total	Other	% of Total	Work at Home	% of Total	Total Workers
1990	2,104,716	68.2	399,673	13.0	293,581	9.5	111,968	3.6	69,610	2.3	3,085,634	3.4	3,085,634
2000	2,248,095	68.0	426,500	12.9	321,053	9.7	106,063	3.2	71,605	2.2	132,735	4.0	3,306,051

Source: U.S. Census 1990 and 2000

The amount of time it takes to travel to work has increased over the past decade. Table 2.1-5 shows the average reported travel time to work from the 1990 and 2000 Census. The average one-way commute duration for the Bay Area increased by 14.8 percent between 1990 and 2000, from 25.6 minutes in 1990 to 29.4 minutes in 2000. (Some of this increase may be due to the tendency of census respondents to round their commute times to the nearest five or ten minutes). At a county level, Contra Costa County shows the highest absolute gain in average commute time (+5.1 minutes), from 29.3 minutes in 1990 to 34.4 minutes in 2000. Alameda County experienced the highest percent gain in average commute time (+19.4 percent), from 25.8 minutes in 1990 to 30.8 minutes in 2000.

Table 2.1-5: Average Travel Time to Work, 1990 - 2000

County of Residence	Commuter Duration (One-Way, minutes)		Change
	1990	2000	
Alameda	25.8	30.8	19.4%
Contra Costa	29.3	34.4	17.4%
Marin	28.4	32.3	13.7%
Napa	21.4	24.3	13.6%
San Francisco	26.9	30.7	14.1%
San Mateo	24.0	27.0	12.5%
Santa Clara	23.3	26.1	12.0%
Solano	28.2	31.8	12.8%
Sonoma	24.1	26.8	11.2%
Bay Area	25.6	29.4	14.8%

Source: U.S. Census 1990 and 2000

Bay Area residents are increasingly commuting outside their county of residence to jobs in other counties. Table 2.1-6 shows the number of workers who live and work in the same county as well as the number of residents who commute to other counties for work from 1990 to 2000. Alameda County showed the highest absolute increase in the number of its residents who commute out to other counties (+37,964), from 187,029 residents in 1990 to 224,993 residents in 2000. Sonoma County showed the highest percent gain in out-commuting (+4.6 percent), from 38.6 percent in 1990 to 43.2 percent in 2000. These commute patterns are due largely to the concentration of employment in Alameda, San Francisco, and Santa Clara counties.

Table 2.1-6: Bay Area Resident Workers Commute Patterns by County, 1990 - 2000

County	Live Here, Work Here			Live Here, Work Elsewhere			% Resident Workers Commuting Out		
	1990	2000	Change	1990	2000	Change	1990	2000	Change
Alameda	446,162	453,917	1.7%	187,029	224,993	20.3%	29.5%	33.1%	3.6%
Contra Costa	239,908	254,749	6.2%	161,265	187,259	16.1%	40.2%	42.4%	2.2%
Marin	73,235	78,681	7.4%	51,845	47,965	-7.5%	41.4%	37.9%	-3.6%
Napa	38,431	44,341	15.4%	13,142	13,052	-0.7%	25.5%	22.7%	-2.7%
San Francisco	307,400	322,009	4.8%	74,909	96,544	28.9%	19.6%	23.1%	3.5%
San Mateo	201,506	206,093	2.3%	145,053	148,003	2.0%	41.9%	41.8%	-0.1%
Santa Clara	710,365	727,915	2.5%	86,240	101,012	17.1%	10.8%	12.2%	1.4%
Solano	97,477	99,231	1.8%	61,236	75,340	23.0%	38.6%	43.2%	4.6%
Sonoma	155,802	184,423	18.4%	34,629	40,524	17.0%	18.2%	18.0%	-0.2%

Source: U.S. Census 1990 and 2000

REGULATORY SETTING

The federal and state legal framework for the proposed Transportation 2030 Plan is described below.

Federal Statutes

Transportation Equity Act for the 21st Century

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and built upon the initiatives established in the prior federal transportation legislation of 1991 (Intermodal Surface Transportation Efficiency Act, or ISTEA). TEA-21 reauthorized highway, highway safety, transit, and other surface transportation programs for six years (1998-2003), and significantly increased overall funding for transportation. TEA-21 continues the program structure established for highways and transit under the earlier ISTEA legislation, such as flexibility in the use of funds for a variety of locally defined purposes, including helping meet federal air quality standards (determining conformity of the Transportation 2030 Plan with the federal air quality plan is a separate process from this EIR). TEA-21 also encourages development of Intelligent Transportation Systems (ITS) to help improve operations and management of transportation systems and vehicle safety. TEA 21 expired on September 30, 2003. Congress has not yet passed new authorizing legislation.

Metropolitan Planning General Requirements

Under TEA-21, the U.S. Department of Transportation (USDOT) requires that Metropolitan Planning Organizations, like MTC, prepare long-range transportation plans and that these plans

be updated every three years. MTC adopted the 2001 Regional Transportation Plan (RTP) in December 2001.

The proposed Transportation 2030 Plan is considered the 2005 update to the 2001 RTP, and will replace the 2001 RTP when adopted.

Key federal requirements for long range plans include the following:

- RTPs must be developed through an open and inclusive process that ensures public input and seeks out and considers the needs of those traditionally under served by existing transportation systems;
- RTPs must be developed for a period of not less than 20 years into the future; RTPs must reflect the most recent assumptions for population, travel, land use, congestion, employment, and economic activity;
- RTPs must have a financially constrained element, and transportation revenue assumptions must be reasonable; RTPs may include, for illustrative purposes, additional projects that would be included in the adopted RTP if reasonable additional resources beyond those identified in the financial plan were to become available.
- RTPs must conform to the applicable federal air quality plan, called the State Implementation Plan (SIP), for ozone and other pollutants for which an area is not in attainment; and
- RTPs must consider seven planning factors and strategies, in the local context.²

National Environmental Policy Act

The National Environment Policy Act of 1969 (NEPA) requires federal agencies to assess the possible environmental consequences of projects which they propose to undertake, fund, or approve. While the RTP is not subject to NEPA, individual federally funded programs or projects requiring federal approval will be subject to a NEPA evaluation.

State Statutes

The State requirements largely mirror the Federal requirements. State planning guidelines call for the adoption and submittal of a RTP every three years to the California Transportation Commission (CTC) and Caltrans. If the current RTP is determined to be adequate such that an update is not warranted, a Regional Transportation Planning Agency, such as MTC, may re-adopt the current RTP. Also, the guidelines specify three elements of the RTP – a policy element, an action element, and a financial element.

To qualify for funding in the State Implementation Improvement Program (STIP), projects included in a Regional Transportation Improvement Program (RTIP) and Interregional Transportation Improvement Program (ITIP) must be consistent with adopted RTPs. Given the

² For more details on the seven planning factors, see California Transportation Commission, *Regional Transportation Guidelines*, December 1999.

requirements of Government Code 65080(c), the CTC will only consider STIP funding for projects consistent with an RTP adopted within three years of STIP adoption.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires State and local agencies to consider the environmental consequences of projects that they undertake, fund, or permit. The RTP and any subsequent revisions, amendments, or updates must be in compliance with CEQA. Typically, a program or master Environmental Impact Report (EIR) is prepared for the RTP. This EIR for the proposed Transportation 2030 Plan is a program EIR.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

According to CEQA guidelines, a project will normally have a significant effect if it would cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system. This definition is somewhat limited for the purposes of a regional transportation program EIR, therefore, a more expansive set of criteria has been defined to determine whether transportation improvements in the proposed Transportation 2030 Plan will have a significant adverse effect on future regional mobility in the Bay Area:

Travel Time. This is a central measure of mobility since transportation improvements are generally intended to reduce travel times, particularly in highly congested corridors.

- **Criterion 1: Average travel time per trip.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant adverse impact if it results in an appreciable increase in average travel time per trip compared to the No Project alternative.

Accessibility. Changes in accessibility will measure how easy it is to get to different types of activities or opportunities around the region. Arguably the most critical activity/opportunity is getting to work, because work supplies the resources to engage in other activities. However, since the accessibility measure is based on jobs, and jobs are a surrogate for other types of activities besides work (e.g., shopping, recreation, school, etc.), the accessibility measure also serves as a proxy for other trip purposes.

- **Criterion 2: Number of work opportunities within 15, 30, and 45 minutes by auto and transit.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant adverse impact if it results in an appreciable decrease in the average number of jobs within specified travel times from home by auto (combines single occupant autos and carpools) and transit compared to the No Project alternative.

Traffic/Congestion. This measure is the closest criterion to the CEQA language and thus, the EIR evaluates the change in total vehicle trips (traffic) and changes in the amount of travel at different levels of service on freeways and local streets (congestion).

- **Criterion 3: Vehicle trips.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant adverse impact if it results in an appreciable increase in vehicle trips (traffic) compared to the No Project alternative.
- **Criterion 4: Vehicle miles traveled (VMT) at level of service (LOS) F.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant adverse impact if it results in an appreciable increase in vehicle miles traveled (VMT) at LOS F compared to the No Project alternative (LOS F defines a condition on roads where traffic substantially exceeds capacity, resulting in very low speeds and stop and go conditions for extended periods of time).

METHOD OF ANALYSIS

The EIR analysis is based on travel projections developed using MTC's travel demand forecasting model. This model is actually a set of individual models that perform different functions, leading to projections of future Bay Area travel. The models are developed from a database that consists of the MTC 1990 Household Travel Survey and traffic and transit counts that are used to validate the model results. Available Census 2000 data was also used in re-validating the various components of the travel models to a 2000 base year³. The base year (existing conditions) for the analysis is 2000, the year of the last major travel model validation effort.

In addition, MTC uses the latest long-run economic-demographic forecasts adopted by the Association of Bay Area Governments (ABAG) – the latest forecasts being *Projections 2003*. It is important to point out that *Projections 2003* is different than past forecasts in that it is founded on a vision of how the Bay Area wishes to direct residential and job growth in the future based on alternative land use policies developed through ABAG's recent Smart Growth Project. ABAG's *Projections 2003* represent a policy forecast based on local jurisdictions, the state and other agencies cooperating to institute a new growth pattern that is mainly transit-oriented, and focuses development in urban core areas throughout the region.

Typically, travel demand models are based on a four-step process. These four steps are: trip generation (how much travel?), trip distribution (where do people travel?), mode choice (what mode of travel?) and trip assignment (what road/highway or transit route?).

MTC additionally employs three more steps beyond the basic four-step process. These additional steps are auto ownership models (how many cars does a household own?), working household models (do households have workers? If so, how many workers?) and time-of-day models (when do people travel during the day? How many people travel during the peak travel commute period?).

³ Metropolitan Transportation Commission, 2004 Base Year Validation of Travel Demand Models for San Francisco Bay Area (BAYCAST-90) Technical Summary, May 2004

Key Assumptions

Underpinning the models is a series of key assumptions. These assumptions fall under two basic categories:

Travel Demand Assumptions:

- Land use/demographics (population, housing, jobs, workers, auto ownership, etc.).
- Pricing (gas costs, parking costs, bridge tolls, transit fares, etc.).

Transportation System Supply Inputs:

- Networks (capacity of system of streets and highways and frequency and travel time for transit routes).

References

For more information, MTC has a large body of detailed published documentation regarding its travel demand models. These, and other documents can be obtained from the MTC library, or from MTC's home page on the World Wide Web at www.mtc.ca.gov.

FUTURE TRANSPORTATION CONDITIONS (2030)

In order to assess potential impacts, it is necessary to first describe future baseline transportation conditions in terms of projected trips, projected travel modes and vehicle travel, and proposed transportation supply.

Growth in Trips

Projected population and employment growth in the Bay Area over the next 25 years, as defined by ABAG's *Projections 2003*, will lead to increases in the number of trips made by persons traveling in the Bay Area (called person trips) and hence the need for additional transportation investment. These trips are made for a variety of purposes as shown in Table 2.1-7. Overall, a 35 percent increase in daily person trips is projected between 2000 and 2025. This growth rate is higher than population growth, projected at 29 percent, but lower than the growth in employment (38 percent). Home-based work trips are projected to increase at the fastest rate (44 percent), which is 5 percent more than the growth rate in Bay Area employment. As with the movement of people, the number of commercial truck trips (which includes heavy trucks and 4-tire service delivery trucks) will also increase to serve both the new population and additional freight needs of a growing economy. These trips are estimated to increase by 37 percent.

Table 2.1-7: Growth in Regional Population/Employment, Vehicle Availability Level, and Trips (2000 and 2030)

			Change	
	2000	2030	Numerical	Percent
Demographic Characteristics				
Total Population	6,783,762	8,780,300	1,996,538	29%
Employed Residents	3,605,675	4,983,240	1,377,565	38%
Total Employment	3,753,670	5,226,400	1,472,730	39%
Mean Household Income (2000\$)	\$92,500	\$118,200	\$25,700	28%
Regional Households by Vehicle Availability Level				
Zero-Vehicle Households	247,200	311,400	64,200	26%
Total Vehicles in Households	4,324,000	5,746,700	1,422,700	33%
Average Vehicles in Households	1.75	1.80	0.05	3%
Trip Purpose				
Home-Based Work	5,248,300	7,555,500	2,307,200	44%
Home-Based Shop/Other	5,201,100	7,124,100	1,923,000	37%
Home-Based Social/Recreation	2,469,200	3,402,700	933,500	38%
Home-Based School	2,294,600	2,491,400	196,500	9%
Non-Home-Based	5,820,700	7,919,100	2,098,600	36%
Sub-Total, Intraregional Personal Travel	21,033,800	28,492,900	7,459,100	35%
Commercial	3,404,400	4,654,500	1,250,100	37%

Source: Metropolitan Transportation Commission, 2004; Association of Bay Area Governments, Projections 2003

Projected Changes in Transportation Mode and Vehicle Travel

As discussed above, the provision of transportation system capacity improvements in specific corridors will affect traffic levels on regional facilities and the use of Bay Area transit systems. Table 2.1-8 provides measures of regional travel activity for 2030, as forecasted by MTC.

Table 2.1-8: Projected Changes in Travel Behavior (2000 to 2030)

	2000	2030 No Project	2030 Project	Change 2000 to 2030 Project		Change 2030 No Project to 2030 Project	
				Numerical	Percent	Numerical	Percent
<i>Trips by Means of Transportation¹</i>							
Auto	17,597,300	23,719,700	23,583,600	5,986,300	34%	-136,100	-1%
Transit	1,175,600	1,727,000	1,869,700	694,100	59%	142,700	8%
Bicycle	310,600	405,200	403,100	92,500	30%	-2,100	-1%
Walk	1,950,400	2,640,900	2,636,400	686,000	35%	-4,500	0%
Total	21,033,800	28,492,900	28,492,900	7,459,100	35%	0	0%
<i>Share of Trips by Means of Transportation</i>							
Auto	83.7%	83.2%	82.8%				
Transit	5.6%	6.1%	6.6%				
Bicycle	1.5%	1.4%	1.4%				
Walk	9.3%	9.3%	9.3%				
Total	100.0%	100.0%	100.0%				
Daily Transit Boardings ²	1,714,300	2,504,400	2,815,500	1,101,200	64%	311,100	12%
Daily Vehicle Trips ³	17,098,100	23,564,600	23,469,400	6,371,300	37%	-95,200	0%
Daily Vehicle Miles of Travel (VMT)	143,495,300	203,072,600	200,878,200	57,382,900	40%	-2,194,400	-1%
Daily Vehicle Hours of Delay (VHD)	355,600	1,073,900	721,300	365,700	103%	-352,600	-33%
Average Delay per Vehicle (Minutes)	1.2	2.7	1.8	1	48%	-1	-33%

¹Excludes commercial and interregional trips

²Daily transit boardings includes transfer boardings

³Includes interregional trips

Source: Metropolitan Transportation Commission, 2004

Proposed Transportation System Capacity Increases (Supply)

The proposed Transportation 2030 Plan consists of funding for transit and highway maintenance, rehabilitation and operations, system management/customer service programs, and system expansion, as described in Chapter 1.2. Maintenance and rehabilitation projects will not affect people's travel behavior, and system management will affect travel behavior in subtle and localized ways that are generally difficult to assess in a regional analysis. Projects that expand transportation system capacity will be responsible for the greatest impact on travel behavior and are therefore given the bulk of the attention in this EIR analysis. Table 2.1-9 provides a measure of the relative level of expansion contemplated in the proposed Transportation 2030 Plan.

Table 2.1-9: Roadway Lane Miles and Transit Seat Miles (2000 to 2030)

	2000	2030 No Project	2030 Project	Change 2000 to 2030 Project		Change 2030 No Project to 2030 Project	
				Numerical	Percent	Numerical	Percent
Freeways	4,500	4,800	5,400	900	20%	600	13%
Mixed Flow	4,300	4,400	4,600	300	7%	200	5%
HOV	300	400	800	500	167%	400	100%
Expressways	1,000	1,000	1,100	100	10%	100	10%
Mixed Flow	900	1,000	1,000	100	11%	0	0%
HOV	50	100	100	50	100%	0	0%
Arterial / Other	14,600	14,900	15,100	500	3%	200	1%
Roadway Lane Miles Total	20,100	20,700	21,600	1,500	7%	900	4%
High Occupancy Toll (HOT) Lanes	0	0	837	837	100%	837	100%
Bus Transit	1,912,700	1,262,700	2,037,400	124,700	6.5%	810,700	61%
Light Rail Transit	179,600	206,500	280,500	100,900	56%	74,000	36%
Rapid Rail Transit	1,059,600	1,087,700	1,918,800	859,200	81%	831,100	76%
Commuter Rail Transit	678,700	762,800	828,000	149,300	22%	65,200	9%
Ferry Transit	110,900	126,800	227,100	116,200	105%	100,300	79%
Transit Seat Miles Total	3,941,300	3,446,600	5,291,800	1,150,500	34%	1,645,200	48%

¹AM peak period passenger seat miles per hour

Source: Metropolitan Transportation Commission, 2004

SUMMARY OF IMPACTS

Overall, the proposed Transportation 2030 Plan (Proposed Project) provides improved mobility for the Bay Area in 2030 compared to the No Project alternative for all impact measures, due to the new investments in road and transit capacity. However, when compared to 2000 existing conditions these same road and transit improvements are not sufficient to improve average travel time or vehicle miles traveled at LOS F conditions because of the more significant effects of increasing population and jobs on generating additional demand for travel.

Implementation of projects in the proposed Transportation 2030 Plan will be phased over many years, so that impacts will change year to year. As projects advance from planning into implementation, short-term impacts, such as delays to travelers, would be created by congestion in and around construction zones. Significant numbers of construction projects occurring at the same time could cause cumulative regional delay impacts.

IMPACTS & MITIGATION MEASURES

Average Travel Time Per Trip

Impact

2.1-1 The Proposed Project provides a slight reduction in average travel time for work trips (2 percent), non-work trips (1 percent), personal trips (1 percent), and truck trips (1 percent) when compared to the No Project. (*No Adverse Impact*)

As shown in Table 2.1-10, average travel time per trip for both the No Project and Project alternatives is projected to increase relative to existing conditions. This increase reflects the effect of continued growth in regional travel demand (trips) across all modes without a corresponding expansion in the capacity of the regional transportation system to accommodate these trips.

However, the Proposed Project would provide an overall improvement compared to the No Project alternative for both work trips (2 percent reduction in travel time per trip) and non-work trips (1 percent reduction in travel time per trip), for an overall 1 percent improvement.

Table 2.1-10: Average Travel Time Per Trip (2000 to 2030, in minutes)

	2000	2030 No Project	2030 Project	Change 2000 to 2030 Project		Change 2030 No Project to 2030 Project	
				Numerical	Percent	Numerical	Percent
Work Trips, Total	28.4	31.8	31.1	2.7	10%	-0.7	-2%
Non-Work Trips, Total	15.8	16.1	16.0	0.2	1%	-0.1	-1%
Personal Trips, Total	18.9	20.2	20.0	1.1	6%	-0.2	-1%
Truck Trips, Total	11.4	11.5	11.4	0.0	0%	-0.1	-1%

Source: Metropolitan Transportation Commission, 2004

Mitigation Measures

None. There are no significant adverse effects on average travel time per trip due to implementation of the proposed Transportation 2030 Plan.

Accessibility

Impact

2.1-2 The Proposed Project provides improved accessibility to jobs by both auto and transit modes for all time intervals of 15, 30 and 45 minutes. (*Beneficial*)

Accessibility is calculated as the average number of total jobs within 15, 30 or 45 minutes of the neighborhood-of-residence by mode of transportation. For regional transportation planning the Bay Area is divided into 1,454 neighborhoods (travel analysis zones). Mode of transportation includes drive alone, carpool, transit, bicycle and walk. After the total employment accessible to each neighborhood is obtained, each neighborhood's accessibility value is weighted by the total population of the neighborhood/zone, and all zones are then summed to derive a regional weighted accessibility value. Higher accessibility values means better accessibility to jobs, shopping and other opportunities. Remote communities on the periphery of the Bay Area (e.g., Guerneville, Cloverdale, Gilroy) tend to have the lowest accessibility scores.

Projected changes in accessibility from 2000 to 2030 are the result of three factors: (1) increased job growth relative to population growth, (2) changing geographic relationships between the location of jobs and housing in the region, and (3) the effects of the transportation investments in the Proposed Project. Compared to 2000, accessibility to total jobs would greatly increase for both auto and transit users under the Proposed Project, as shown in Table 2.1-11. The increase in auto and transit accessibility is primarily related to the shift in where people live in relation to their jobs. ABAG's *Projections 2003* shows that the highest net residential and employment densities are concentrated in the urban core areas of San Francisco, Alameda, and Santa Clara counties. Comparing the Proposed Project to the No Project alternative shows that the Proposed Project will result in modest improved accessibility for autos and a more significant improvement in accessibility for transit users—given the 48 percent increase in the regional transit supply in the Proposed Project compared to the No Project alternative.

Table 2.1-11: Accessibility to Jobs (2000 to 2030)

	2000	2030 No Project	2030 Project	Change 2000 to 2030 Project		Change 2030 No Project to 2030 Project	
				Numerical	Percent	Numerical	Percent
Number of Total Jobs Accessible by Auto							
Within 15 minutes	109,200	131,400	133,300	24,100	22%	1,900	1%
Within 30 minutes	476,800	553,500	569,800	93,000	20%	16,300	3%
Within 45 minutes	960,300	1,076,000	1,114,300	154,000	16%	38,300	4%
Number of Total Jobs Accessible by Transit							
Within 15 minutes	5,100	7,000	7,900	2,800	55%	900	13%
Within 30 minutes	41,200	57,700	66,800	25,600	62%	9,100	16%
Within 45 minutes	136,000	176,300	211,400	75,400	55%	35,100	20%

Source: Metropolitan Transportation Commission, 2004

Mitigation Measures

None. There are no significant adverse effects on accessibility to jobs by auto or transit due to implementation of the proposed Transportation 2030 Plan.

Daily Vehicle Trips

Impact

2.1-3 The Proposed Project reduces the average weekday vehicle trips for all nine counties when compared to the No Project. (*No Adverse Impact*)

Forecasted daily vehicle trips in the Bay Area would increase by about 35 percent from 2000 to 2030 due to growth in the region. San Francisco, Marin and Napa counties show the largest absolute growth in vehicle trips over this period.

Overall, the Proposed Project would reduce vehicle trips by 1 percent compared to the No Project alternative. As illustrated in Table 2.1-12, a comparison between the Proposed Project and No Project alternative shows that the Proposed Project reduces vehicle trips in all counties. Significant decreases in vehicle trips are evident in a number of counties-of-origin, most notably: Napa County (32,500 less trips in the Proposed Project), Marin County (16,500 less trips in the Proposed Project), Alameda County (14,400 less trips in the Proposed Project), and Contra Costa County (12,700 less trips in the Proposed Project).

Mitigation Measures

None. There are no significant adverse effects on the number of daily vehicle trips due to implementation of the proposed Transportation 2030 Plan.

Table 2.1-12: Average Weekday Daily Vehicle Trips by County-of-Origin

County-of-Origin	2000	2030 No Project	2030 Project	Change 2000 to 2030 Project		Change 2030 No Project to 2030 Project	
				Numerical	Percent	Numerical	Percent
San Francisco	1,087,700	1,304,000	1,289,600	201,900	19%	-14,400	-1%
San Mateo	1,624,800	2,090,500	2,077,800	453,000	28%	-12,700	-1%
Santa Clara	3,921,300	5,380,800	5,364,300	1,443,000	37%	-16,500	-0.3%
Alameda	2,555,400	3,521,900	3,489,400	934,000	37%	-32,500	-1%
Contra Costa	1,714,900	2,448,900	2,441,200	726,300	42%	-7,700	-0.3%
Solano	620,600	982,000	978,100	357,500	58%	-3,900	-0.4%
Napa	238,500	309,300	309,000	70,500	30%	-300	-0.1%
Sonoma	853,400	1,189,700	1,186,200	332,800	39%	-3,500	-0.3%
Marin	512,000	640,900	637,100	125,100	24%	-3,800	-1%
Regional Total	13,128,600	17,868,100	17,772,800	4,644,200	35%	-95,300	-1%

¹Average weekday daily vehicle trips include intra-regional personal travel and exclude inter-regional and truck trips.

Source: Metropolitan Transportation Commission, 2004

Vehicle Miles Traveled By Facility Type and V/C Ratio (Level of Service)

Impact

- 2.1-4 The Proposed Project provides an overall reduction of 20 percent in vehicle miles traveled at Level of Service F for both freeways and expressways and arterial facilities when compared to the No Project. (*No Adverse Impact*)

Table 2.1-13 displays vehicle miles of travel by type of travel (i.e., freeways versus arterials and expressways) and volume-to-capacity ratio (V/C). The volume-to-capacity ratio is a way of describing the level of service experienced by users of a road, which depends on the number of vehicles traveling on the facility and the available capacity. As traffic increases, the V/C ratio rises to a point of saturation where the road cannot carry any more vehicles (a ratio of 1.0 or greater). V/C ratios are also commonly expressed as a range of letters from A to F, with “A” being the least congested, and “F” indicating more traffic than the road’s capacity. When V/C is expressed as a letter (A-F), the condition is referred to level-of-service (LOS).

Overall, regional VMT during the morning (AM) peak period is projected to increase by 25 percent over existing conditions for the Proposed Project. The amount of VMT at LOS F (severe congestion) for all facilities would increase 92 percent between 2000 and 2030. Thus, altered land use patterns and new transportation investment will help but not fully mitigate the impacts of continued regional growth on the transportation system.

However, relative to the No Project alternative, the implementation of the Proposed Project will reduce the amount of VMT at LOS F by 20 percent on freeways and 24 percent on expressways and arterials. Thus, the proposed Transportation 2030 Plan would represent an improvement over the No Project alternative.

Mitigation Measures

None. There are no significant adverse effects on vehicle miles traveled at LOS F due to implementation of the proposed Transportation 2030 Plan.

Table 2.1-13: AM Peak Period Regional Vehicle Miles Traveled (VMT) by Facility Type and Volume to Capacity (V/C) Ratio (2000 to 2030)

V/C Ratio	LOS	2000	2030 No Project	2030 Project	Change 2000 to 2030 Project		Change 2030 No Project to 2030 Project	
					Numerical	Percent	Numerical	Percent
Freeways								
< 0.75	A-C	6,073,100	5,422,500	7,037,400	964,300	16%	1,614,900	30%
0.75 to 1.00	D-E	5,012,500	6,927,500	6,234,700	1,222,200	24%	-692,800	-10%
> 1.00	F	819,500	1,939,100	1,557,200	737,700	90%	-381,900	-20%
Total		11,905,100	14,289,100	14,829,300	2,924,200	25%	540,200	4%
Expressways and Arterials								
< 0.75	A-C	5,469,900	6,343,300	6,323,100	853,200	16%	-20,200	0%
0.75 to 1.00	D-E	1,043,900	2,229,700	1,739,600	695,700	67%	-490,100	-22%
> 1.00	F	118,800	319,700	244,500	125,700	106%	-75,200	-24%
Total		6,632,600	8,892,700	8,307,200	1,674,600	25%	-585,500	-7%
All Facilities								
< 0.75	A-C	11,543,000	11,765,800	13,360,500	1,817,500	16%	1,594,700	14%
0.75 to 1.00	D-E	6,056,400	9,157,200	7,974,300	1,917,900	32%	-1,182,900	-13%
> 1.00	F	938,300	2,258,800	1,801,700	863,400	92%	-457,100	-20%
Total		18,537,700	23,181,800	23,136,500	4,598,800	25%	-45,300	0%

¹AM peak period is two hours.

²Freeways include Freeways and Freeway-to-Freeway connectors. Expressways and Arterials include all other facilities.

³LOS - Level of Service measures traffic density in a range of A to F.

⁴LOS A are free-flow conditions with no delay; LOS D-E are more congested conditions with some delay possible; LOS F represents conditions of over-capacity and significant delay.

Source: Metropolitan Transportation Commission, 2004

2.2 Air Quality

This air quality analysis focuses on the criteria pollutants that affect public health and that the Bay Area is currently designated as a non-attainment area for the national standards¹ (ozone) and state standards (ozone and particulate matter). This chapter also describes toxic air contaminants (TACs), which refers to pollutants that occur in relatively low concentrations and can have adverse health impacts, but for which no ambient air quality standards have been established. In both cases, the pollutants discussed are those that are produced by mobile sources-autos, buses, and trucks. Implementation of the proposed transportation improvements in the proposed Transportation 2030 Plan could affect these pollutants through changes in travel behavior and vehicle activity (amount of travel and speed).

ENVIRONMENTAL SETTING

PHYSICAL SETTING

The main pollutants addressed in this EIR are regional in character. Certain types of pollutants produced by automobiles and transit vehicles can affect public health. Electrically powered transit vehicles produce pollution indirectly at the source of the power generation. Localized pollutants such as carbon monoxide and particulate matter are more appropriately addressed in project-level environmental documents.

Climate, Meteorology, and Topography

Regional wind patterns vary from season to season. Wind tends to move from areas of high-pressure to low-pressure areas. In warmer months, this means that air blows on-shore from the Pacific Ocean to inland areas. While Pacific Ocean air is generally free of harmful air pollutants, it receives emissions from numerous sources (anthropogenic and biogenic), and will then carry these pollutants to areas many miles away. Mountains and valleys often affect on-shore winds. This means that a wind pattern that started as northwesterly will often swing 90 degrees or more when it encounters topographic features.

Normally, air temperatures decrease with increasing elevations. Sometimes this normal pattern is inverted, with warmer air aloft, and cool air trapped near the earth's surface. This phenomenon occurs in all seasons. In summer, especially when wind speeds are very low, a strong inversion will trap air emissions and high levels of ozone smog can occur. In winter, a strong inversion can trap emissions of particulate and carbon monoxide near the surface, resulting in unhealthy air quality.

Wet winters and dry summers characterize the region's Mediterranean climate. Rainfall totals can vary widely over a short distance, with windward coastal mountain areas receiving over 40 inches

¹ U.S. EPA has made a finding that the Bay Area has attained the national 1-hour ozone standard, and the the Bay Area Air Quality Management District, MTC and ABAG (co-lead agencies) are in the process of preparing a redesignation request and a maintenance plan.

of rain, while leeward areas receive about 15 inches. During rainy periods, horizontal and vertical air movement ensures rapid pollutant dispersal. Rain also washes out particulate and other pollutants.

The Bay Area topography is complex, consisting of coastal mountain ranges, inland valleys, and bays. The Pacific Ocean bounds the area to the west with warmer inland valleys to the south and east. The only major break in California's Coast Range occurs at San Francisco Bay. The gap on the western side is called the Golden Gate, and on the eastern side is called the Carquinez Strait. These gaps allow air to pass between the Central Valley and the Pacific Ocean. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or offshore winds.

The climatological pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 miles per hour (mph), smog potential is greatly reduced. Because of wind patterns, and to a lesser degree the geographic location of emission sources, high ozone levels usually occur in inland valleys, such as the Livermore area. High particulate matter (PM_{10}) levels can occur in most valley areas where residential wood smoke and other pollutants are trapped by inversions and stagnant air.

Criteria Pollutants

The federal Clean Air Act (CAA) of 1970, amended in 1977 and 1990 (42 USC 7506(c)), was enacted for the purposes of protecting and enhancing the nation's air resources to benefit public health. In 1971, to achieve the purposes of Section 109 of the act, the U.S. Environmental Protection Agency (EPA) promulgated National Ambient Air Quality Standards (NAAQS). The NAAQS require that certain pollutants should not exceed specified levels; areas that exceed the standard for specified pollutants are designated as "non attainment" areas. Six pollutants of primary concern were designated: ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), and suspended particulate matter (PM_{10} and $PM_{2.5}$). In promulgating the NAAQS, the EPA allowed some states the option to develop stricter state standards. As such, California has adopted its own set of stricter standards under the California Clean Air Act (CCAA) of 1988.

This EIR focuses on pollutants for which the Bay Area is currently designated as a non-attainment area for the national standards (ozone) and state standards (ozone and particulate matter). Table 2.2-1 lists the federal and California ambient air quality standards for ozone, carbon monoxide and particulate matter. In addition, Table 2.2-2 presents a ten-year Bay Area air quality summary for days over the national and California standards for ozone, carbon monoxide, and particulate matter. Each of these criteria pollutants is discussed in more detail in the following pages.

Table 2.2-1: Ambient Air Quality Standards for Criteria Pollutants

<i>Pollutant</i>	<i>Averaging Time</i>	<i>California Standard</i>	<i>Bay Area Attainment Status for California Standard</i>	<i>Federal Primary Standard</i>	<i>Bay Area Attainment Status for Federal Standard</i>	<i>Major Pollutant Sources</i>
Ozone	8 hour	---	---	0.08 ppm	Non-Attainment	Motor vehicles, Other mobile sources, combustion, industrial and commercial processes
	1 hour*	0.09 ppm**	Non-Attainment	0.12 ppm	Non-Attainment	
Carbon Monoxide	8 hour	9.0 ppm	Attainment	9 ppm	Attainment	Internal combustion engines, primarily gasoline-powered motor vehicles
	1 Hour	20 ppm	Attainment	35 ppm	Attainment	
Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	Non-Attainment	50 µg/m ³	Attainment	Dust- and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays)
	24 hour	50 µg/m ³	Non-Attainment	150 µg/m ³	Unclassified	
Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	Non-Attainment	15 µg/m ³	Unclassified	Same as above
	24 hour	---	---	65 µg/m ³	Unclassified	

*The national 1-hour standard will cease in June 2005 and be replaced with the more stringent 8- hour standard.

**PPM=parts per million; mg/m³=milligrams per cubic meter; and µg/m³=micrograms per cubic meter

Source: Bay Area Air Quality Management District, 2003; California Air Resource Board, 2003

Table 2.2-2: Ten-Year Bay Area Air Quality Summary (1994 to 2003)

<i>Days Over Standard for Ozone, Carbon Monoxide and Particulate Matter (PM)</i>										
Year	Ozone		Carbon Monoxide				PM ₁₀		PM _{2.5}	
	1-Hr		8-Hr		1-Hr		8-Hr		24-Hr ¹	
	Nat'l	Calif.	Nat'l	Nat'l	Calif.	Nat'l	Calif.	Nat'l	Calif.	Nat'l
1994	2	13		0	0	0	0	0	0	9
1995	11	28		0	0	0	0	0	0	7
1996	8	34		0	0	0	0	0	0	3
1997	0	8		0	0	0	0	0	0	4
1998	8	29	16	0	0	0	0	0	0	5
1999	3	20	9	0	0	0	0	0	0	12
2000	3	12	4	0	0	0	0	0	0	7
2001	1	15	7	0	0	0	0	0	0	10
2002	2	16	7	0	0	0	0	0	0	6
2003	1	19	7	0	0	0	0	0	0	6

¹PM₁₀ is sampled every sixth day--actual days over standard can be estimated to be six times the numbers listed

²2000 is the first full year of which the BAAQMD measured PM_{2.5} levels

Nat'l = National, Calif.=California

Source: Bay Area Air Quality Management District, 2004

Ozone

Ozone (O₃) is a reactive pollutant, which is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x). ROG and NO_x are known as precursor compounds of ozone. Motor vehicle exhaust and industrial emissions, gasoline vapors, and chemical solvents are some of the major sources of ROG and NO_x that help to form ozone. Ozone is a regional air pollutant because it is formed downwind of sources of ROG and NO_x under the influence of wind and sunlight. During summertime (particularly on hot, sunny days with little or no wind), ozone levels are at their highest levels.

Short-term exposure to elevated concentrations of ozone is linked to such health effects as eye irritation and breathing difficulties. Repeated exposure to ozone can make people more susceptible to respiratory infections, and aggravate pre-existing respiratory diseases. Long-term exposures to ozone can cause more serious respiratory illnesses. Ozone also damages trees and other natural vegetation, reduces agricultural productivity, and causes deterioration of building materials, surface coatings, rubber, plastic products and textiles.

Ozone levels in the Bay Area have improved over the years. The previous national 1-hour ozone standard is being replaced with a new national 8-hour ozone standard, which averages ozone concentrations over a longer period of time. This new standard is believed to be more protective of public health. Table 2.2-3 and Table 2.2-4 present the number of exceedances of the national and state 1-hour ozone standard recorded at each Bay Area monitoring station, respectively. Figure 2.2-1 and Figure 2.2-2 plot the exceedances over a long time horizon (1965 to 2003). Table 2.2-5 displays the number of exceedances of the new national 8-hour ozone standard now in

place. It should be noted that the number of days on which the region experiences unhealthy ozone levels has fallen overall. This improvement is due to CARB regulations affecting motor vehicle emissions and Bay Area Air Quality Management District regulations to reduce emissions from industrial and commercial sources.

Carbon Monoxide

Carbon monoxide (CO) is an odorless and invisible gas. It is a non-reactive pollutant that is a product of incomplete combustion of gasoline in automobile engines. Carbon monoxide is a localized pollutant, and the highest concentrations are found near the source. Ambient carbon monoxide concentrations generally follow the spatial and temporal distributions of vehicular traffic and are influenced by wind speed and atmospheric mixing. Carbon monoxide concentrations are highest in flat areas on still winter nights, when temperature inversions trap the carbon monoxide near the ground. When inhaled at high concentrations, carbon monoxide reduces the oxygen-carrying capacity of the blood, which, in turn, results in reduced oxygen reaching parts of the body. Most of the Bay Area's carbon monoxide comes from on-road motor vehicles, although a substantial amount also comes from burning wood in fireplaces. Over the past 10 years, the Bay Area has not experienced any exceedances of either the national or state carbon monoxide standard.

Particulate Matter

Particulate matter includes dirt, dust, soot, smoke and liquid droplets found in the air. Coarse particulate matter, or PM_{10} , refers to particles less than or equal to 10 microns in diameter (about one-seventh the diameter of a human hair). PM_{10} is primarily composed of large particles such as dust from roads or black carbon (soot) from combustion sources. Fine particulate matter, or $PM_{2.5}$, refers to particles less than or equal to 2.5 microns in diameter, and contains particles formed in the air from primary gaseous emissions. Examples include sulfates formed from SO_2 emissions from power plants and industrial facilities, nitrates formed from NOx emissions from power plants, automobiles, and other combustion sources, and carbon formed from organic gas emissions from automobiles and industrial facilities. Coarse and fine particulate matter are small enough to get into the lungs and can cause numerous health problems, including respiratory conditions such as asthma and bronchitis, and heart and lung disease. People with heart or lung disease, the elderly, and children are at highest risk from exposure to particulate matter.

The Bay Area experiences its highest particulate matter concentrations in the winter, especially during evening and night hours. Major sources of PM_{10} include wood smoke, combustion of fossil fuels, and airborne dust propelled in the air by motor vehicles and construction, and diesel exhaust from trucks and buses. One third of total PM_{10} emissions come from woodburning largely during the winter, while another third comes from fossil fuels (particularly when winter conditions convert much more of the NOx produced into particulate ammonium nitrate)². Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect.

² Bay Area Air Quality Management District, Bay Area 2000 Clean Air Plan (December 2000)

Table 2.2-3: Days Exceeding the National 1-Hour Ozone Standard (1983 to 2003)

Station By Sub-Region	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03
North Counties																					
Napa	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
San Rafael	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Rosa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sonoma	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+	+	0	0	0	0	0
Vallejo	2	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Central Bay																					
Oakland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Richmond #	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Francisco	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Pablo ##															0	0	0	0	0	0	0
East District																					
Bethel Island	2	1	2	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1	0	0
Concord	4	3	1	0	3	1	0	0	0	0	2	0	3	1	0	2	2	1	1	0	0
Fairfield	0	1	0	0	0	1	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0
Livermore - Old First St ^{LO}	8	7	4	3	3	4	2	1	1	0	1	2	7	8	0	6	2	2			
Livermore - Rincon ^{LR}																		1	0	2	1
Pittsburg	2	1	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
South Bay																					
Fremont	7	5	4	2	4	1	0	1	0	0	1	0	2	0	0	0	1	0	0	0	0
Hayward	3	3	1	0	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0
Mountain View ^{MV}	5	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redwood City	2	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
San Leandro	3	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
Santa Clara																					
Gilroy ^Z	5	3	2	0	4	1	2	0	1	0	0	0	1	0	0	2	0	0	0	0	0
Los Gatos	12	13	4	0	4	1	0	0	0	1	1	0	4	1	0	1	0	0	0	0	0
San Jose Central ^{SJ}	9	7	2	1	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0
San Jose, Piedmont	5	4	2	1	6	0	0	0	0	1	0	0	3	0	0	1	0	0	0	0	0
San Jose, San Carlos													***								
San Martin								1	0	0	1	1	1	0	0	3	1	0	0	0	0
Sunnyvale ^{SV}																					
District Days	21	22	8	5	14	5	4	2	2	2	3	2	11	8	0	8	3	3	1	2	1

*** Closed April 1995; # Closed April 1997; ## Opened May 1997;

+ Out of service December 1996, closed permanently December 1997.

MV Mountain View closed 11/30/99; Z Gilroy closed for 2000; LR Livermore Rincon opened 12/1/99; LL Livermore Old 1st St Closed 12/31/00; SV Sunnyvale opened in 2001; SJ San Jose 4th St closed for relocation to Jackson St 6/1/02 to 10/1/02

Source: Bay Area Air Quality Management District, 2004

Part Two: Settings, Impacts, and Mitigation Measures
Chapter 2.2: Air Quality

Table 2.2-4: Days Exceeding the State 1-Hour Ozone Standard (1985-2003)

Stations by Sub-Region	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03
North Counties																			
Santa Rosa	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
Sonoma	3	1	2	2	3	0	3	0	0	0	0	0							
Napa	3	0	6	1	2	0	3	0	2	0	4	0	0	3	4	0	1	1	2
Vallejo	5	0	6	5	2	2	2	1	3	2	6	5	1	3	4	0	0	1	2
San Rafael	1	0	1	1	0	0	0	0	0	0	0	2	1	0	2	0	0	0	0
Coast and Central Bay																			
San Francisco	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Richmond	0	0	0	2	1	0	0	0	2	0	0	0							
San Pablo													1	0	1	0	0	0	0
Oakland	1	0	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
South Central Bay																			
Fremont	8	3	17	7	11	3	6	5	5	4	10	2	2	7	3	2	3	3	4
Hayward**	5	1	12	9	1	0	2	1	0	1	7	2	2	4	4	1	2	0	3
Mountain View***	2	1	16	13	6	1	3	1	2	0	2	3	1	2	7				
San Leandro	0	0	0	0	0	0	2	2	3	0	6	2	3	2	3	1	0	1	2
Burlingame																			
Redwood City	5	1	2	2	1	0	0	0	1	0	5	1	0	0	0	0	1	0	1
Eastern District																			
Concord	10	5	20	10	6	3	4	3	7	4	9	11	2	13	8	2	6	5	5
Walnut Creek																			
Pittsburg	3	1	14	8	5	4	0	3	4	3	8	5	0	4	2	1	2	4	0
Bethel Island	8	8	14	7	11	5	3	7	3	5	6	6	1	10	5	1	3	5	0
Livermore	21	20	10	21	9	8	17	14	7	5	20	22	3	21	14	7	9	10	10
Fairfield	4	0	9	3	4	1	3	3	3	2	10	5	0	9	9	1	3	4	0
Santa Clara Valley																			
San Jose****	12	12	23	12	10	4	6	3	3	2	14	5	0	4	3	0	2		4
Los Gatos	20	21	25	12	1	5	7	3	8	2	13	10	1	5	4	0	2	4	7
San Jose East	16	5	22	13	9	1		5	5	3	15	5	1	5	2	1	0	0	2
Gilroy*	18	5	19	23	10	5	5	12	6	3	10	15	1	10	3		3	6	6
San Jose-Burbank						5	0	1	4	1									
San Martin										5	14	18	0	15	7	4	7	8	9
Sunnyvale																0	0	0	4
District Days	45	39	45	41	22	14	23	23	19	13	28	34	8	29	20	12	15	16	19

*Gilroy closed from 11/1/99 to 3/31/01

**Hayward Closed from 4/96 to 8/23/96

***Mountain View closed 12/3/99

****San Jose 4th St closed 4/30/02; reopened as San Jose Central 10/5/02

Source: Bay Area Air Quality Management District, 2004

Table 2.2-5: Days Exceeding the National 8-Hour Ozone Standard (1998-2003)

Site	1998	1999	2000	2001	2002	2003
North Counties						
Napa	1	1	0	0	0	0
San Rafael	0	0	0	0	0	0
Santa Rosa	0	0	0	0	0	0
Vallejo	0	1	0	0	0	0
Coast & Central Bay						
Oakland	0	0	0	0	0	0
San Francisco	0	0	0	0	0	0
San Pablo	0	0	0	0	0	0
Eastern District						
Bethel Island	5	5	1	2	3	0
Concord	6	6	1	1	3	1
Fairfield	3	4	0	0	0	0
Livermore	10	5	2	2	6	3
Pittsburg	1	1	0	1	2	0
South Central Bay						
Fremont	0	1	0	0	0	1
Hayward	0	1	0	1	0	1
Redwood City	0	0	0	0	0	0
San Leandro	0	0	0	0	0	0
Santa Clara Valley						
Gilroy	4	0		2	2	2
Los Gatos	2	1	0	1	2	2
Mountain View/Sunnyvale**	0	1		0	0	2
San Jose, 4th Street/Central*	1	0	0	0		0
San Jose East	0	0	0	0	0	0
San Martin	6	3	1	2	5	4

* San Jose 4th Street station was closed for relocation on April 30, 2002 and reopened as San Jose Central on October 5, 2002. Ozone statistics for 2002 have been omitted.

** Mountain View site was closed at the end of 1999. Sunnyvale site began operation in April 2001.

Source: Bay Area Air Quality Management District, 2004

Figure 2.2-1: Exceedances of the National 1-Hour Ozone Standards in the Bay Area (1965 - 2003)

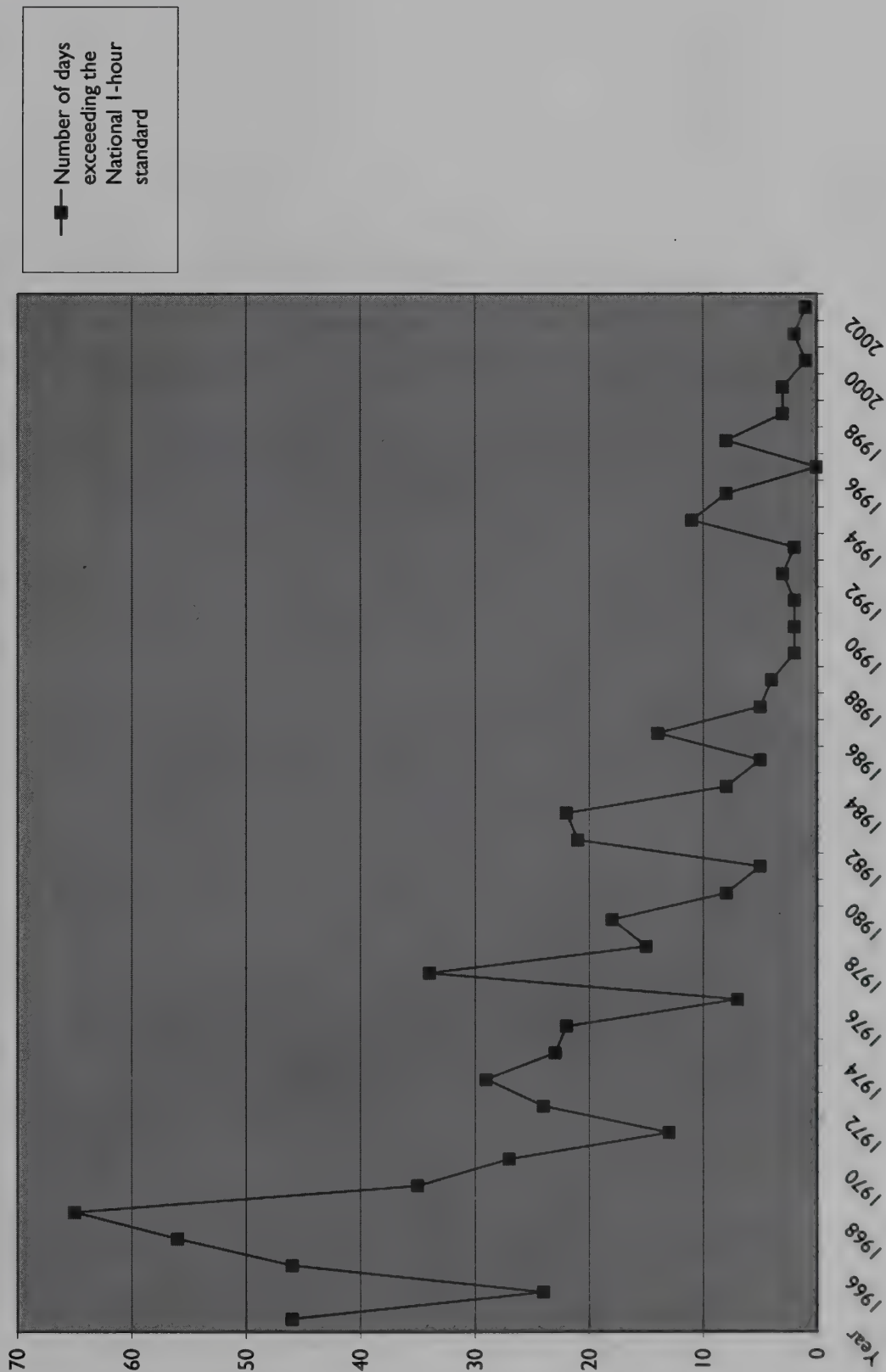
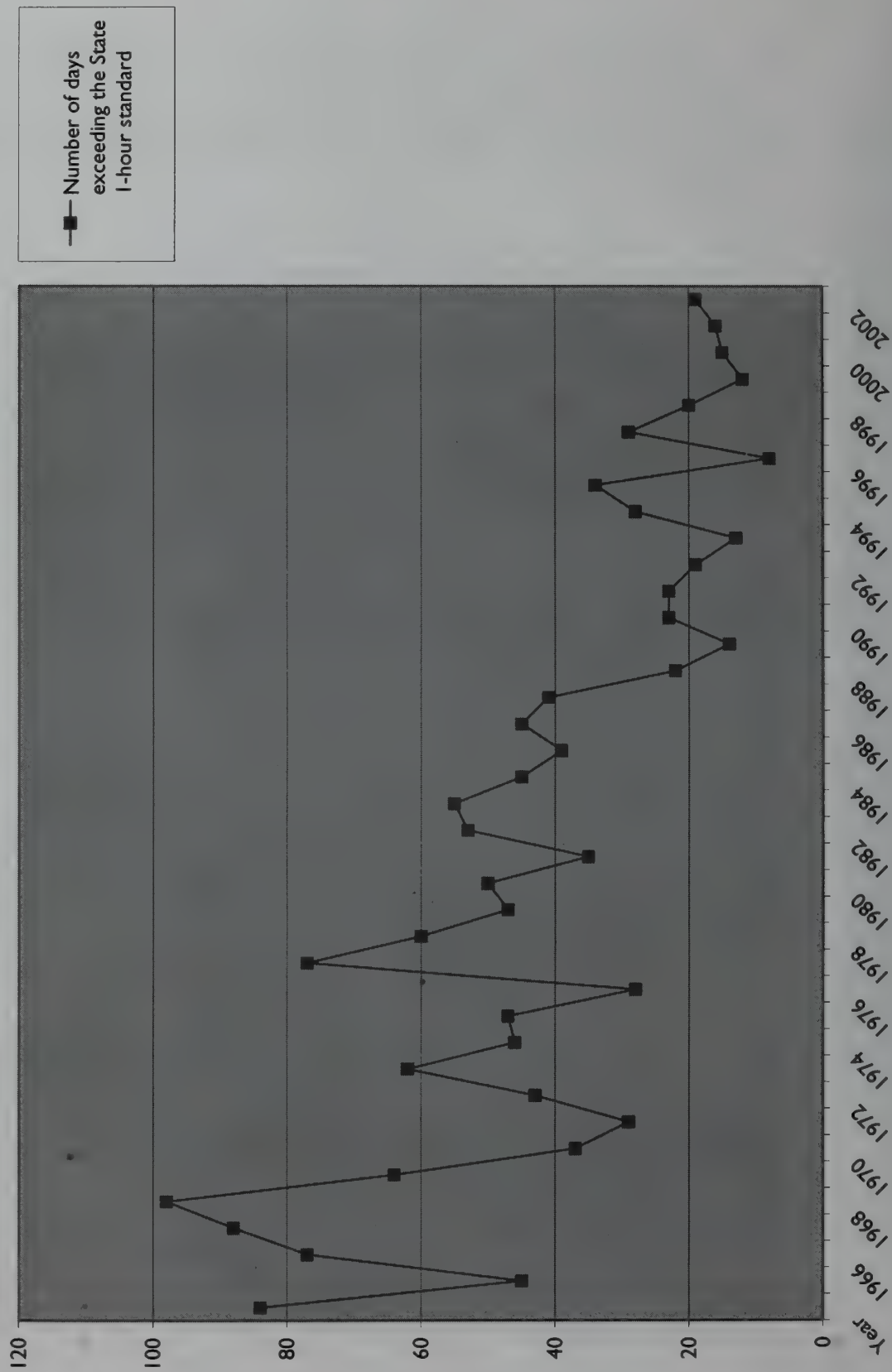


Figure 2.2-2: Exceedances of the State 1-Hour Ozone Standards in the Bay Area (1965 - 2003)



Non-Criteria Pollutants

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are a set of non-criteria pollutants. Although this EIR does not focus on non-criteria pollutants, this discussion of TACs is included as an informational item. TACs are emitted daily by industrial and chemical manufacturing processes, commercial activities, refinery operations, gasoline marketing and motor vehicles. Toxic air contaminants are formed from the combustion of other chemicals and are present in exhaust from motor vehicles and buses. Exposure to airborne toxic compounds has been linked to a higher risk of cancer. According to the Bay Area Air Quality Management District, approximately 75 percent of the total ambient air risk is from diesel particulate matter (which was identified by CARB as TACs), and 90 percent of total ambient air risk is from mobile sources (diesel particulate matter, benzene and 1,3-butadiene). The average ambient levels of benzene dropped significantly in 1996 due to the widespread introduction of Phase 2 reformulated gasoline. The network average benzene level has continued to drop, and by the end of 2002, the benzene level had decreased to 42 percent of what was observed in 1995³.

Control measures already adopted by CARB, such as the Low-Emissions Vehicles/Clean Fuels (LEV) program and requirements for utility engines and off-road vehicles/engines, should provide gradual reductions in emissions of benzene and 1,3-butadiene in the future. In addition, CARB's Diesel Risk Reduction Plan will significantly reduce diesel particulate matter emissions through cleaner fuels (e.g., Ultra-Low Sulfur Diesel), tighter diesel tailpipe regulations and regulations governing operations (e.g., idling restrictions)⁴. Similarly, the Bay Area Air Quality Management District's newly initiated Community Air Risk Evaluation (CARE) program will look at all toxic air pollutants with an emphasis on diesel exhaust in areas with the highest health risk. The CARE program includes enhanced air monitoring that will better determine the relative contribution of air pollution sources, and a cumulative risk assessment for stationary sources within selected communities. Such programs will help reduce toxic pollutants in areas with the highest risk through regulatory controls and incentives.

REGULATORY SETTING

Air Pollution Control Agencies

The MTC region encompasses the San Francisco Bay Air Basin in its entirety and portions of both the North Coast Air Basin and the Sacramento Valley Air Basin. Northern Sonoma County is within the North Coast Air Basin, while eastern Solano County is within the Sacramento Valley Air Basin. (Both southern Sonoma County and western Solano County are within the San Francisco Bay Air Basin.)

³ Ibid.

⁴ California Air Resources Board, Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (October 2000)

The Bay Area Air Quality Management District (BAAQMD) governs the San Francisco Bay Air Basin, while the Northern Sonoma County Air Pollution Control District (NSCAPCD) governs the North Coast Air Basin and the Yolo-Solano Air Pollution Control District (YSAPCD) governs the Sacramento Valley Air Basin portion that corresponds to MTC's jurisdiction. The geographic boundaries of these air basins and air districts are shown in Figure 2.2-3. In California, air pollution control districts generally follow county boundaries. In the more urban areas, county agencies were merged by state legislation into unified air quality management districts.

Federal Regulations

Federal Ozone Requirements and Attainment Status

National 1-Hour Ozone Standard

In 1979, EPA promulgated the current ozone standard, 0.12 parts per million (ppm), which is measured over a one hour period (i.e., the national 1-hour ozone standard). This standard addresses peak concentrations of ozone typically seen in urban areas.

Until recently, the Bay Area has violated the national 1-hour ozone standard⁵. For the past three years (2001, 2002, and 2003), no ozone monitoring station registered more than three exceedances of the national 1-hour ozone standard. Only three stations recorded exceedances, and only Livermore recorded more than one. Because data for three complete, consecutive calendar years show that all locations within the region have met the national 1-hour ozone standard, the Bay Area, by definition, has attained the national 1-hour ozone standard. In April 2004, EPA made a final finding that the Bay Area had attained the national 1-hour ozone standard.

The finding of attainment does not mean the Bay Area has been reclassified as an attainment area for the 1-hour standard. The region must submit a redesignation request to EPA in order to be reclassified as an attainment area. The BAAQMD, MTC, and ABAG are currently preparing the Draft Bay Area 2004 Ozone Strategy to address national and state ozone planning requirements. The Ozone Strategy will be released for public review in fall 2004. The national portion of the Ozone Strategy will include: (1) a redesignation request that explains how the region satisfies all applicable requirements to become an attainment area, and (2) a maintenance plan to show the region will continue to meet the 1-hour ozone standard in the future.

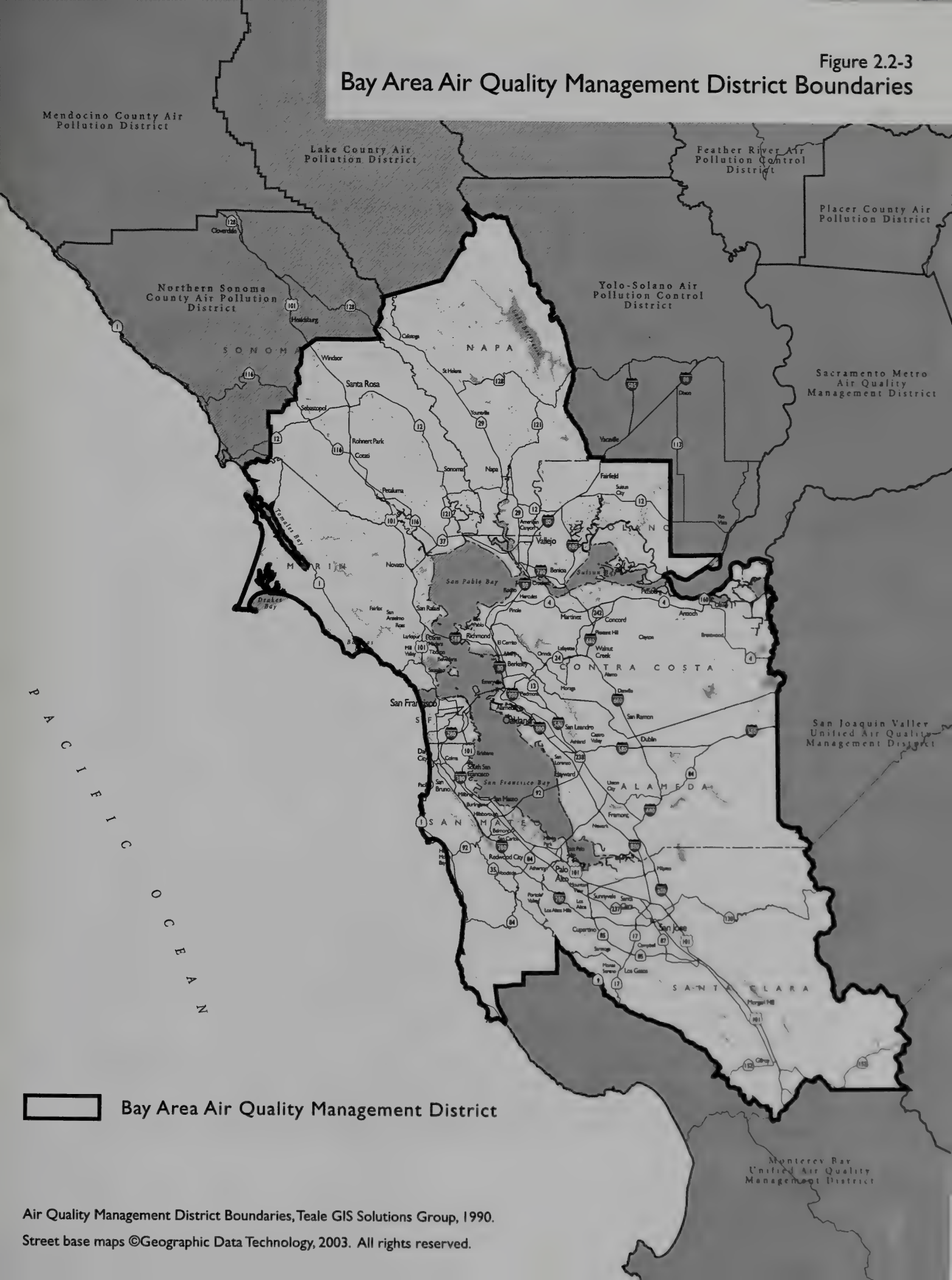
National 8-Hour Ozone Standard

In 1997, EPA revised the ozone standard, setting it to 0.08 ppm and defined the new standard as a "concentration-based" form, specifically the 3-year average of the annual 4th-highest daily maximum 8-hour ozone concentrations. The implementation of the 8-hour standard was delayed because EPA was challenged in court by a number of industry groups. In April 2004, EPA issued final designations for areas as attaining or not attaining the national 8-hour ozone standard.

⁵ In August 1998, EPA designated the Bay Area as an ozone non-attainment area due to violations of the national 1-hour ozone standard in 1995 and 1996.

Figure 2.2-3

Bay Area Air Quality Management District Boundaries



Bay Area Air Quality Management District

The Bay Area monitoring stations recorded concentrations that exceeded the national 8-hour ozone standard for 1997, 1998, and 1999. In March 2000, the CARB recommended a nonattainment designation for the Bay Area for the national 8-hour ozone standard. In April 2004, EPA formally designated the Bay Area as a nonattainment area for the national 8-hour ozone standard, and classified the region as "marginal" based on five classes of nonattainment areas for ozone, ranging from marginal to extreme. The Bay Area must submit a State Implementation Plan (SIP) to EPA by June 2007 that demonstrates attainment of the national 8-hour ozone standard. EPA will revoke the national 1-hour ozone standard in June 2005; however, EPA expects continued compliance with the national 1-hour ozone standard until an area demonstrates attainment of the national 8-hour ozone standard.

Federal Carbon Monoxide Requirements and Attainment Status

In August 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard, having demonstrated attainment of the standards. The region must assure continued attainment of the CO standard.

Federal Particulate Matter Requirements and Attainment Status

In 1971, EPA promulgated the original primary and secondary national standards for particulate matter. In 1987, recognizing the risks of adverse health effects associated with smaller particles that are more likely to penetrate deeper into the respiratory system, EPA created the PM₁₀ standard. However, EPA concluded that the continued use of PM₁₀ as the sole indicator for particulate matter would not provide the most effective protection from the detrimental health effects of small particulate matter. In July 1997, EPA revised the PM₁₀ standard and created a new PM_{2.5} standard, which addresses particles whose size is 2.5 microns or less. After resolution of legal challenges, EPA began developing new strategies for implementation of the PM_{2.5} standards.

The Bay Area is designated as attainment for the national PM₁₀ standard. As of February 2004, the CARB has forwarded a recommendation to EPA that the Bay Area be designated as unclassified for the national PM_{2.5} standard due to insufficient air quality data to make a determination.

Federal Transportation Conformity Requirements

The 1990 CAAA outlines requirements for ensuring that federal transportation plans, programs and projects "conform" to the State Implementation Plan's (SIP) purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards. The EPA subsequently published conformity regulations to implement the 1990 CAAA conformity requirements in November 1993, and revised them in August 1995, November 1995 and August 1997. Metropolitan Planning Organizations such as MTC are required to adopt and follow these regulations. MTC Resolution No. 3075 is the MTC resolution adopting EPA's most current regulation on conformity procedures for plans, programs and projects. These same conformity requirements are also adopted by ABAG and the BAAQMD.

These regulations and resolutions state, in part, that MTC cannot approve any transportation plan, program or project unless these activities conform to the purpose of the State Implementation Plan. "Transportation plan" refers to the RTP. "Program" refers to the Transportation Improvement Program (TIP), which is a financially realistic set of highway and

transit projects to be funded over the next six years. A "transportation project" is any highway or transit improvement, which is included in the RTP and TIP and requires funding or approval from the Federal Highway Administration or the Federal Transit Administration.

To demonstrate conformity of a Plan or TIP, MTC conducts a conformity analysis to show that estimated total motor vehicle emissions are lower than the allowed amount in the SIP and that adopted Transportation Control Measures in the SIP are being implemented in a timely manner (there are currently five adopted federal TCMs that have been or are being implemented as shown in Table 2.2-6).

The federal conformity analysis and findings are addressed in a separate process from the EIR and, under EPA regulations, includes extensive requirements for consultation with transportation and air quality agencies and the public. The results of the federal conformity analysis will be included by reference in the final Transportation 2030 Plan and the 2005 Transportation Improvement Program with Amendment #05-05. See MTC's web page, www.mtc.ca.gov, for more information about the Air Quality Conformity Task Force meetings and materials related to the federal conformity analysis.

Table 2.2-6: Five New Transportation Control Measures in State Implementation Plan (2001 Ozone Attainment Plan)

<i>TCM #</i>	<i>Title</i>
TCM A	Regional Express Bus Program
TCM B	Bicycle/Pedestrian Program
TCM C	Transportation for Livable Communities (TLC) Program
TCM D	Expansion of Freeway Service Patrol
TCM E	Transit Access to Airports

Source: Bay Area Air Quality Management District, 2004

State Regulations – State Requirements and Attainment Status

The California Air Resources Board (CARB) has established a state, health-based air quality standard for ozone at a level of 0.09 parts per million (ppm) for a one-hour average, significantly more stringent than the national standard of 0.12 ppm. Under the California Clean Air Act (CCAA) of 1988, areas not complying with the standard must prepare plans to reduce ozone. Non-compliance with the state ozone standard does not impact the ability to proceed with any transportation plan, program, or project. At this time, no major metropolitan area in the state complies with the state ozone standard. The first Bay Area Clean Air Plan (CAP) was adopted in 1991, and updates to the CAP have occurred in 1994, 1997, and most recently, 2000. The CAP is currently being updated by the BAAQMD to ensure the state Plan contains "all feasible measures" (a draft 2004 Ozone Strategy will be released in late 2004).

The CCAA of 1988 requires a reduction in district wide emissions of 5 percent per year for each non-attainment pollutant or its precursors. If a district is unable to achieve this reduction, it allows, as an alternative strategy, the implementation of all feasible measures on an expeditious schedule. The Bay Area has proceeded under the latter requirement. The CCAA states that attainment plans should emphasize reducing emissions from transportation and areawide sources. It requires air districts to adopt, implement, and enforce various stationary, mobile

source and transportation control measures to reduce emissions. Transportation control measures (TCMs) are defined in State law as any strategy to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions. The draft TCMs proposed for the Draft Bay Area 2004 Ozone Strategy consists of 19 measures, as shown in Table 2.2-7.

The Bay Area attained the state carbon monoxide (CO) standard in 1993, so the CCAA planning requirements for CO nonattainment areas no longer apply to the Bay Area.

The Bay Area does not attain the state PM_{10} or $PM_{2.5}$ standards, which are much stricter than the national PM_{10} standards. However, at this time the CCAA does not include any planning requirements for PM_{10} or $PM_{2.5}$ non-attainment areas, so no attainment plan has been developed for this pollutant.

Table 2.2-7: Transportation Control Measures Proposed in Draft Bay Area 2004 Ozone Strategy

#	Title
TCM 1	Voluntary Employer Based Trip Reduction Programs
TCM 3	Improve Local and Areawide Bus Service
TCM 4	Improve Regional Rail Service
TCM 5	Improve Access to Rail and Ferries
TCM 6	Improve Interregional Rail Service
TCM 7	Improve Ferry Service
TCM 8	Construct Carpool/Express Bus Lanes on Freeways
TCM 9	Improve Bicycle Access and Facilities
TCM 10	Youth Transportation
TCM 11	Install Freeway Traffic Management System
TCM 12	Arterial Management Measures
TCM 13	Transit Use Incentives
TCM 14	Carpool and Vanpool Services and Incentives
TCM 15	Local Land Use Planning and Development Strategies
TCM 16	Public Education/Intermittent Control Measures
TCM 17	Conduct Demonstration Projects
TCM 18	Transportation Pricing Reform
TCM 19	Improve Pedestrian Access and Facilities
TCM 20	Promote Traffic Calming

Source: Bay Area Air Quality Management District, 2004

Relationship Between RTP-Level and Project-Level Emissions

The air quality impacts discussed in this EIR are for the proposed Transportation 2030 Plan as a whole and are regional in nature. This EIR does not examine localized air quality effects of specific transportation improvements in the Transportation 2030 Plan, such as concentrations of carbon monoxide and particulate matter. These pollutants will be examined in subsequent project-level EIRs prepared by project sponsors in order to approve the individual projects. It is further possible that individual transportation improvements could result in short-term

construction-related emissions, due to use of certain types of equipment and the rerouting traffic, such that traffic and emissions increase in some locations when compared to 2000 existing conditions or the No Project alternative.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

According to the State CEQA Guidelines, significant impacts to air quality would occur if the plan would conflict with or obstruct implementation of the applicable air quality attainment plan; violate any air quality standard or contribute to an existing or projected air quality violation; or result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). The most straightforward means to assess these potential impacts is to evaluate overall mobile source emission trends.

The following criterion was used to assess whether proposed improvements in the Transportation 2030 Plan would have a significant adverse effect on air quality for criteria air pollutants:

- **Criterion 1: Motor vehicle emissions are higher for the proposed Transportation 2030 Plan than for the No Project alternative.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if motor vehicle emissions for criteria pollutants ROG, NO_x, PM₁₀, PM_{2.5}, and CO are higher for the proposed Project (Transportation 2030 Plan) than for the No Project alternative.

For the purposes of addressing cumulative impacts in CEQA, it is considered a significant cumulative impact if future mobile source emissions are higher than existing and the increase in emissions is primarily related to travel demand increases due to regional growth.

METHOD OF ANALYSIS

Projected vehicle emissions for each of the criteria pollutants (ROG, NO_x, CO, PM₁₀, and PM_{2.5}) for the Proposed Project were compared to existing conditions (2000) and to the No Project alternative.

The air quality analysis is based on the forecasts of travel behavior and vehicle activity from MTC's travel demand forecasting models. These models have been extensively reviewed and refined in connection with their application to air quality analyses of various kinds. Key model outputs for use in air quality analyses include: total daily vehicle trips, vehicle miles of travel, and distribution of vehicle miles of travel by speed. This information is then used in determining total emissions from transportation activity in the Bay Area using motor vehicle emission models developed and maintained by the CARB.

In particular, the CARB is responsible for developing updated vehicle emission rates based on the latest testing of in-use vehicles. The latest on-road motor vehicle emissions model developed by CARB is called EMFAC2002 (version 2.2, April 23, 2003). The EMFAC2002 model includes two basic modules: emission factors and vehicle activity. Emission factors describe the emission

characteristics of vehicles under different ambient and driving conditions. CARB develops these factors based on thousands of emissions tests on both new and used vehicles recruited randomly from the California fleet. Emission factors are held constant in the model. Within the EMFAC2002 model, these emission factors are combined with vehicle activity, or estimates of travel and vehicle demographics, provided by MTC through its travel demand forecasting models as well as Department of Motor Vehicles (DMV) vehicle registration data. Expected emission reductions resulting from California's Inspection and Maintenance (called "Enhanced Smog Check" in the Bay Area) program are accounted for within EMFAC2002.

Emission estimates for ROG, NOx, CO and particulate matter (associated with engine exhaust and tire wear) are direct outputs from the EMFAC2002 model. To obtain rough estimates of the amount of particulate matter generated by autos kicking up dust from Bay Area roads (called "entrained dust"), regional vehicle miles of travel were multiplied by the following factors: (1) 0.458 grams/mile entrained dust for PM₁₀, and (2) 0.077 grams/mile entrained dust for PM_{2.5}.

FUTURE TRANSPORTATION CONDITIONS (2003)

Table 2.2-8 provides the core 2030 travel activity data used to calculate regional motor vehicle emissions.

Table 2.2-8: Travel Data

	2000	2030		Change 2000 to 2030 Project		Change 2030 No Project to 2030 Project	
		No Project	2030 Project	Numerical	Percent	Numerical	Percent
Vehicles in Use	4,781,500	7,227,700	7,143,300	2,446,200	49.4%	-84,400	-1.2%
Daily Vehicle Miles Traveled (VMT)	143,495,300	203,072,600	200,878,200	57,382,900	40%	2,194,400	-1%
Engine Starts	32,053,000	45,712,000	45,167,000	13,114,000	40.9%	-545,000	-1.2%
Total Population	6,783,762	8,780,300					
Total Employment	3,753,670	5,226,400					

Source: Metropolitan Transportation Commission, 2004

SUMMARY OF IMPACTS

Projected vehicle emissions in the Project alternative for ROG, NOx, and CO will substantially decrease when compared to existing conditions (2000) and No Project alternative (see Table 2.2-9). This is considered a beneficial impact. This decrease is largely due to the retirement of older, more polluting automobiles, increases in the number of newer and less polluting autos, and implementation of increasingly more stringent emissions controls on future engines and fuels as developed by CARB. While projected vehicle emissions for PM₁₀ and PM_{2.5} will increase compared to existing conditions (due to growth in vehicle miles traveled and generation of road dust), the Proposed Project will produce fewer PM emissions than the No Project alternative. Therefore, relative to the criterion of significance, the implementation of the Proposed Project will have no significant air quality impacts when compared to the No Project alternative.

IMPACTS & MITIGATION

Motor Vehicle Emissions

Impact

2.2-1 The Proposed Project would result in reductions in ROG, NO_x and CO emissions. *(Beneficial)*

As shown in Table 2.2-9, the emissions for criteria pollutants ROG, NO_x, and CO would decrease substantially between 2000 and the 2030 horizon for the Proposed Project. The major reason for this decrease in emissions is turnover in autos, whereby older polluting cars are retired and replaced with newer and substantially less polluting cars. These trends reflect the stringent emission controls CARB has adopted for new vehicle engines and fuels.

**Table 2.2-9: Emission Estimates for Criteria Pollutants using EMFAC2002 Factors
(tons per day)**

	2000	2030 No Project	2030 Project	Change 2000 to 2030 Project		Change 2030 No Project to 2030 Project	
				Numerical	Percent	Numerical	Percent
ROG	214.7	38.1	37.4	-177.2	-82.6%	-0.7	-1.8%
NO _x	363.4	55.5	54.6	-308.8	-85.0%	-0.9	-1.6%
CO	2,279.6	297.3	290.2	-1989.5	-87.3%	-7.2	-2.4%
PM ₁₀	93.9	128.2	126.5	32.6	34.7%	-1.7	-1.3%
PM _{2.5}	21.1	26.9	26.4	5.3	25.1%	-0.5	-1.8%

Source: Metropolitan Transportation Commission, 2004

Mitigation Measures

Not applicable as this is a beneficial impact.

Impact

2.2-2 Emissions impacts of the proposed Project for all criteria pollutants (ROG, NO_x, CO, PM₁₀ and PM_{2.5}) are lower than the No Project's emissions. *(Adverse, but not significant)*

Proposed Project emissions for PM₁₀ and PM_{2.5} would increase by 34.7 percent and 25.1 percent, respectively, compared to existing conditions (2000). This is due to the fact that these emissions are strongly influenced by the growth in vehicle miles of travel, with lesser contributions from tire and brake wear and exhaust. However, the Proposed Project would produce less emissions for all criteria pollutants (ROG, NO_x, CO, and PM₁₀ and PM_{2.5}) compared to the No Project alternative. The most substantial emission decrease would occur in CO with a 2.4 percent decrease, followed by a 1.8 percent decrease for ROG, and 1.6 percent decrease for NO_x. In addition, emissions in the Project alternative for both PM₁₀ and PM_{2.5} will be reduced by 1.3 percent and 1.8 percent, respectively, compared to the No Project.

Mitigation Measures

No mitigation measures are required as there is no significant impact from the implementation of the proposed Transportation 2030 Plan.

Cumulative Impact

2.2-3 PM₁₀ and PM_{2.5} emissions are projected to increase substantially over existing conditions (2000) due to projected cumulative regional growth and the attendant increase in travel. *(Significant, potentially mitigable, but strategies not defined)*

Proposed Project emissions for PM₁₀ and PM_{2.5} would increase by 34.7 percent and 25.1 percent, respectively, compared to existing conditions (2000). This is because they are strongly influenced by growth in vehicle miles of travel that inevitably increases with population and job growth. As shown in Table 2.2-8, by 2030, population growth in the Bay Area is expected to increase by 29.4 percent from existing conditions (2000), and average daily vehicle miles traveled is expected to grow by 40 percent from existing conditions

Mitigation Measures

2.2(a) If attainment plans are required for PM₁₀ and PM_{2.5} in the future, the BAAQMD, MTC, and ABAG (co-lead agencies for air quality planning) will identify the magnitude of reduction required from motor vehicles as well as appropriate control measures to address PM from on road dust and other sources. The extent of the reduction potential is not presently known; therefore, it is not possible to determine whether the impact is partially or fully mitigable.

2.3 Land Use, Housing, and Social Environment

The San Francisco Bay Area has grown from the sparsely populated Native American and then Spanish settlements of the past to an urban area of nearly seven million people today. The pattern of land use in the Bay Area runs from one of the most densely populated urban centers in the United States (the City of San Francisco) to open hills and shorelines, and from growing suburban areas to highly valued farming areas.

This chapter evaluates the potential effects of the transportation projects in the proposed Transportation 2030 Plan on the land use, housing, and social environment of the Bay Area. It describes trends in use of land for residential and employment purposes and trends in the density of new development projected by the Association of Bay Area Governments, based on their review of local general plans, Local Policy Surveys, and smart growth principles developed through the Bay Area Region's Smart Growth Project. In addition, it describes the projected housing trends for the Bay Area between now and 2030. It then addresses the potential impacts of the proposed Transportation 2030 Plan on the conversion or loss of important agricultural lands, open space, or natural areas; project consistency with adopted land use plans; community displacement and disruptions, including potential loss of housing and businesses and separation of people from community resources; and project influences on future land use and development decisions (based on changes to access and mobility).

ENVIRONMENTAL SETTING

PHYSICAL SETTING

The physical land use setting includes current and projected land use patterns, urban development trends and densities, land use accessibility and agricultural uses, and housing.

Land Use Patterns

Since World War II, the San Francisco Bay Area has grown from a primarily agricultural region with one major city (San Francisco) to the fifth most (Census 2000) populous metropolitan region in the United States with multiple centers of employment, residential development, and peripheral agricultural areas. The pattern of land uses in the Bay Area includes a mix of open space, agriculture, intensely developed urban centers, a variety of suburban employment and residential areas, and scattered older towns. This pattern reflects the landforms that physically define the region, the Bay, rivers, and valleys. Major urban areas are located around the Bay, with the older centers close to the Golden Gate. Newer urban areas are found in Santa Clara County to the south, the valleys of eastern Contra Costa and Alameda Counties, and Sonoma and Solano Counties to the north.

The Pacific coast and the northern valleys are primarily in agricultural and open space use, while the agricultural areas adjoining the Central Valley have seen substantial suburban development in recent years, particularly in Solano County and eastern Contra Costa County.

Extent of Urban Development

The Bay Area is comprised of nine counties, including Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. According to ABAG, only about 18 percent (ABAG, 2003) of the region's approximately 7,000 square miles is developed). The remaining undeveloped area includes open space and agricultural lands as well as water bodies (excluding the San Francisco Bay) and parks.

The amount of land developed in each of the nine counties varies from a low of four and a half percent in Napa County to a high of 51 percent in San Francisco. Residential uses continue to consume the greatest amount of urban land, 72 percent, while employment related land uses occupy about 28 percent (ABAG, 2003). Streets, highways, sidewalks, and parking consume about 20 percent of the land in each category, and accordingly, about 20 percent of the developed land in the Bay Area.

The Bay Area includes 101 cities, of which three cities—San Jose, San Francisco, and Oakland—represent the largest urbanized centers. Other major urban centers have formed throughout the region leading to the urbanization illustrated in Figure 2.3-1.

Density of Development

Residential and employment densities vary widely among the areas of the region, with the highest densities associated with the older areas. Densities are of interest because of the way that they affect transportation options for Bay Area residents. Low density development by definition is more dispersed requiring greater reliance on autos for many trips, while higher residential densities on the order of 7.0 to 30.0 units/acre can sustain significant transit service (Pushkarev, and Zupan, 1977). A density of 8.0 units/acre is sometimes cited as the minimum density required to economically justify a fixed bus system operating at half hour headways (Cervero, 1986).

Average existing densities are shown for the MTC superdistricts in Table 2.3-1¹ and for counties in Table 2.3-2. The Bay Area averages for residential and employment density are 4 units per residential acre and 16 jobs per commercial or industrial acre. The highest residential and employment densities occur in downtown San Francisco (which includes the North Beach and Chinatown neighborhoods) with 125 households per residential acre and 277 jobs per commercial or industrial acre.

¹ MTC divides the Bay Area into 34 superdistricts. These superdistricts are comprised of 1,454 transportation analysis zones (TAZ) used as areas of aggregation for Bay Area population and employment levels, and for analysis, calibration, and presentation of MTC's transportation model (BAYCAST-90) output.

With respect to residential uses, after San Francisco, the Berkeley/Albany, Daly City/San Bruno, and Sunnyvale/Mountain View areas have the highest densities, while Healdsburg/Cloverdale, Santa Rosa/Sebastopol, and St. Helena/Calistoga have the lowest densities. Areas with the highest employment densities include San Francisco, Palo Alto/Los Altos, Berkeley/Albany, and Walnut Creek/Lamorinda. Areas with the lowest employment densities include Healdsburg/Cloverdale, Fairfield/Vacaville, and Antioch/Pittsburg.

At the county level, with the exception of San Francisco County, the highest employment densities occur in Santa Clara and San Mateo counties, while the highest residential densities occur in Alameda and Santa Clara counties. The lowest residential densities can be found in Sonoma County; the lowest employment densities in Solano County. Figure 2.3-2 illustrates existing population density in the region.

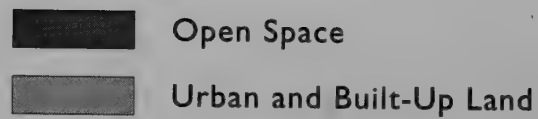
Land Use and Future Densities

The percent of land that is developed is forecast to increase by 71,482 acres between 2000 and 2030, an increase of 9 percent (ABAG, 2003). This regional development will result in just over 19 percent of all Bay Area land being developed by 2030.

Overall regional population density has decreased by a small amount in the last 10 years, but is projected to increase steadily over the next 25 years, ranging from 11.6 to 13.5 persons per residential acre. Projected population density for year 2030 is illustrated in Figure 2.3-3. The regional household density on the other hand, has remained fairly constant, decreasing only slightly in the last 10 years. Household density is projected to reach about 5 households per acre in 2030.

The projection of constant residential density is the result of two countervailing trends. New residential development on new residential acreage (currently undeveloped acreage) is projected to be developed at densities lower than the regional average, perhaps as low as 3.5 units per acre. However, a considerable amount of infill residential development is also occurring within major cities at very high densities. At least 25 percent of the new housing units in the Bay Area are forecast to be provided without any increase in developed acreage. This infill development within the established cities will contribute to greater transit use in the established core where transit is successful. Table 2.3-3 summarizes this information.

Figure 2.3
Urbanized Land and Open Space



Urban lands data, CA Dept. of Conservation farmlands mapping and monitoring program, 2000 - 2002.; Open Space, ABAG, 2000.
Street base maps ©Geographic Data Technology, 2003. All rights reserved.

Part Two: Settings, Impacts, and Mitigation Measures
Chapter 2.3: Land Use, Housing, and Social Environment

Table 2.3-1: Year 2000 Density of Development in the Bay Area by MTC Superdistrict

Superdistrict	Employment Density			Residential Density		
	Jobs	Commercial/ Industrial Acres	Density	Households	Residential Acres	Density
1 Downtown San Francisco	386,582	1,396	276.9	68,139	547	124.6
2 Richmond District	81,534	969	84.1	102,163	2,259	45.2
3 Mission District	138,115	3,069	45.0	110,434	4,025	27.4
4 Sunset District	28,216	438	64.4	48,961	2,540	19.3
5 Daly City/San Bruno	163,295	8,545	19.1	96,371	9,945	9.7
6 San Mateo/Burlingame	111,981	4,942	22.7	80,400	16,715	4.8
7 Redwood City/Menlo Park	120,629	9,642	12.5	77,333	34,320	2.3
8 Palo Alto/Los Altos	179,489	4,404	40.8	68,068	17,931	3.8
9 Sunnyvale/Mountain View	372,465	17,013	21.9	88,679	10,992	8.1
10 Saratoga/Cupertino	145,643	5,234	27.8	116,842	28,375	4.1
11 Central San Jose	161,034	5,709	28.2	92,049	12,404	7.4
12 Milpitas/East San Jose	120,309	6,354	18.9	99,420	18,948	5.2
13 South San Jose/Almaden	71,208	3,134	22.7	71,320	14,928	4.8
14 Gilroy/Morgan Hill	42,200	2,957	14.3	29,484	13,779	2.1
15 Livermore/Pleasanton	119,075	9,100	13.1	60,487	20,655	2.9
16 Fremont/Union City	145,557	10,310	14.1	99,510	18,923	5.3
17 Hayward/San Leandro	163,593	12,115	13.5	122,610	21,540	5.7
18 Oakland/Alameda	216,170	13,750	15.7	172,049	18,629	9.2
19 Berkeley/Albany	107,279	3,413	31.4	68,709	5,881	11.7
20 Richmond/El Cerrito	76,291	8,308	9.2	85,492	11,616	7.4
21 Concord/Martinez	104,518	12,382	8.4	83,827	15,800	5.3
22 Walnut Creek/Lamorinda	82,823	2,727	30.4	59,110	19,317	3.1
23 Danville/San Ramon	53,803	2,274	23.7	41,471	16,821	2.5
24 Antioch/Pittsburg	43,670	10,030	4.4	74,229	16,495	4.5
25 Vallejo/Benicia	43,881	6,608	6.6	50,961	7,752	6.6
26 Fairfield/Vacaville	79,330	18,550	4.3	79,442	34,737	2.3
27 Napa	41,453	2,601	15.9	31,209	7,586	4.1
28 St. Helena/Calistoga	25,381	2,182	11.6	14,193	10,272	1.4
29 Petaluma/Sonoma	61,085	11,047	5.5	60,448	38,637	1.6
30 Santa Rosa/Sebastopol	123,534	9,515	13.0	82,438	58,457	1.4
31 Healdsburg/Cloverdale	20,602	11,796	1.7	29,517	45,721	0.6
32 Novato	27,878	2,414	11.5	21,176	6,733	3.1
33 San Rafael	52,911	4,319	12.3	41,527	14,497	2.9
34 Mill Valley/Sausalito	42,175	1,919	22.0	37,947	9,115	4.2

Note: information in this table was based on MTC's Superdistrict data.

Source: MTC Superdistrict and County Summaries of ABAG's Projections 2003 2000-2030 Data Summary, 2003

Table 2.3-2: Density of Development in the Bay Area by County

County	Employment Density			Residential Density		
	Jobs	Commercial/ Industrial Acres	Density	Households	Residential Acres	Density
Alameda	751,674	48,688	15.4	523,365	85,628	6.1
Contra Costa	361,105	35,721	10.1	344,129	80,049	4.3
Marin	122,964	8,652	14.2	100,650	30,345	3.3
Napa	66,834	4,783	14.0	45,402	17,858	2.5
San Francisco	634,447	5,872	108.0	329,697	9,371	35.2
San Mateo	395,905	23,129	17.1	254,104	60,980	4.2
Santa Clara	1,092,348	44,805	24.4	565,862	117,357	4.8
Solano	123,211	25,158	4.9	130,403	42,489	3.1
Sonoma	205,221	32,358	6.3	172,403	142,815	1.2
Bay Area	3,753,709	229,166	16.4	2,466,015	586,892	4.2

Note: information in this table was based on MTC's Superdistrict data.

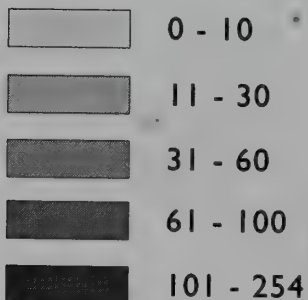
Source: MTC Superdistrict and County Summaries of ABAG's Projections 2003 2000-2030 Data Summary, 2003

Existing Population Density (2000)



Figure 2.3-3
Proposed Population Density (2030)

Number of People per Acre by TAZ



Population data, ABAG projections, 2003.

Street base maps ©Geographic Data Technology, 2003. All rights reserved.

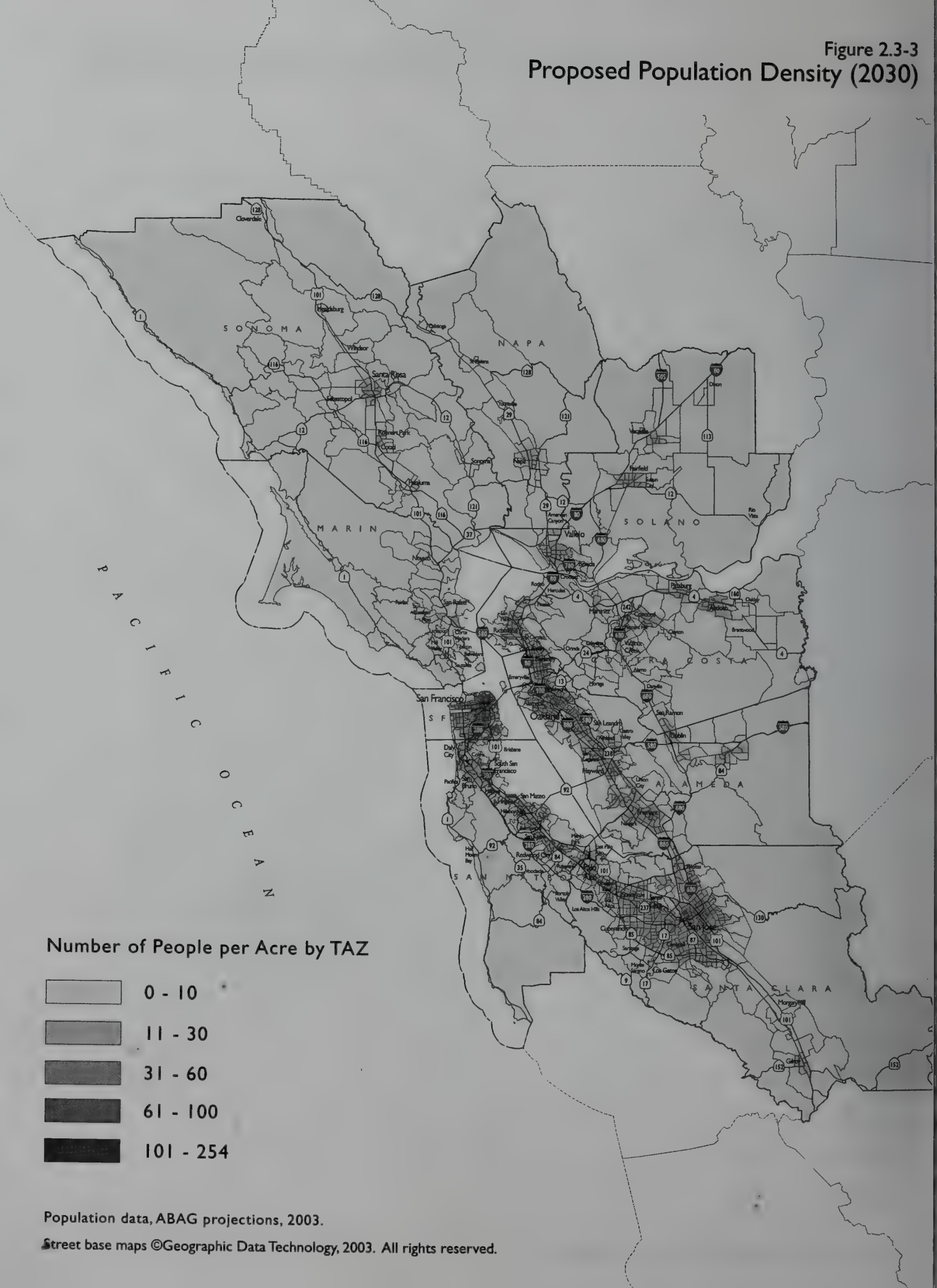


Table 2.3-3: Bay Area Land Use Characteristics

<i>Land Use Characteristics</i>	<i>1990</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>
Population	5,868,700	6,783,762	7,193,904	7,527,536	8,168,310	8,780,317
Households	2,245,900	2,466,015	2,581,347	2,702,069	2,950,936	3,186,592
Residential Acres	448,000	586,892	611,239	634,132	644,217	651,821
Commercial-Industrial Acres	187,200	229,166	229,156	229,371	231,607	235,719
Developed Acres (Residential and Commercial-Industrial)	635,200	816,058	840,395	863,503	875,824	887,540
Total Acres	4,436,800	4,575,251	4,575,251	4,575,251	4,575,251	4,575,251
Population/Residential Acre	13.1	11.6	11.8	11.9	12.7	13.5
Households/Residential Acre	5.0	4.2	4.2	4.3	4.6	4.9
Population/Household	2.61	2.75	2.79	2.79	2.77	2.76
Percentage of Total Acres Developed	14	18	18	19	19	19

Note: information in this table was based on MTC's Superdistrict data.

Source: MTC Superdistrict and County Summaries of ABAG's Projections 2003 2000-2030 Data Summary, 2003

Land Use and Accessibility

Historically, the introduction of new transportation technologies has led to significant changes in the pattern and extent of land use within a region. Early reliance on walking resulted in a pattern of dense cities with dense residential areas surrounding commercial, industrial, and warehousing areas along waterfronts. Later, the introduction of the railroad led to the development of new residential suburbs, which in the Bay Area were situated along the San Mateo and Marin Peninsulas. Streetcar and trolley systems caused the existing dense cities to spread out at a suburban scale as well. Finally, the introduction of the automobile and freeway systems allowed the expansion of residential and commercial development into formerly rural areas and led to the creation of a multi-centered Bay Area.

Land use variables play a key role in influencing the number, distance, duration, and mode of trips, even though the degree of the relationship between land use patterns and trip characteristics is sometimes difficult to quantify. Some key land use variables include residential density, employment density, mixed-use development, jobs-housing balance, location of development relative to transportation systems, availability of parking, and urban design. These factors are summarized below.

- One of the most important variables influencing transit use is residential density. A resident is 30 percent more likely to use transit if he or she lives in a mid-rise or high-rise multifamily neighborhood rather than a single-family neighborhood.² In Chicago, for

² Transportation Research Board, *TCRP Report 16: Transit and Urban Form Part 2* (1996) p. 4.

example, doubling residential density doubles transit use. However, for conveniently located housing within 1/4 mile of a transit stop, density matters less than the characteristics of the destination (particularly accessibility to the workplace).

- Average employment density at trip origins and destinations is highly correlated with mode choice for buses, walking and single-occupant vehicle (SOV) use. However, carpool preferences are least sensitive to urban form factors. Employment density thresholds for metropolitan centers need to be at least 75 employees per acre to support transit.³
- Mixed-use development helps reduce the total number of generated automobile trips. The Institute of Transportation Engineers (ITE) Trip Generation Manual shows that a 100,000 square-foot office building without mixed uses will generate 18.7 more daily trips than an office building with a mix of commercial and service uses.
- In addition to reducing overall auto trips, land use mix, like jobs-housing balance, shortens average trip length and encourages walking and transit use. People who live in mixed-use blocks are more likely to commute by transit, walking or bicycling, and are less likely to commute by car. However, land-use mix is less influential than density, which accounts for 10 to 20 times more transit ridership than land use mix.⁴
- The location of land uses relative to transportation systems also influences mode choice and trip length. High-intensity commercial uses located in proximity to a highway interchange will allow easy access by automobiles and will therefore encourage automobile travel. Similarly, high-intensity uses in proximity to a transit station will encourage greater transit use.
- Not all uses located near a transit station generate the same amount of transit ridership. In Chicago, for example, a 10 percent increase in the share of station-area land devoted to multi-family housing produces a 20 percent increase in transit ridership, while a 10 percent increase in station-area land devoted to office or institutional uses produces a 30 to 33 percent increase in transit use.⁵ This example is not to suggest that office uses will produce greater ridership than housing at all rail stations in all cities, but it simply illustrates the point that different land uses generate different ridership levels.
- The amount of parking at a destination influences whether people will choose to use their automobile. If parking is convenient or readily available, the automobile may be the best means of access. If not, people may choose to change the time of their trip, eliminate the trip, or if possible, substitute a similar, alternative destination. People may also choose to carpool, walk, bike, or take transit.

³ Pushkarev, B.S. and J. M. Zupan, "Where Transit Works: Urban Densities for Public Transportation" in *Urban Transportation: Perspectives and Prospects* (1982) p. 343.

⁴ Transportation Research Board, *op.cit.* 4.

⁵ *ibid.* p. 7.

- Urban design addresses site-specific issues of building placement and orientation, building massing and scale, and pedestrian movement and comfort, all of which influence the propensity to make local walking and biking trips. Urban design principles cannot create walking and bicycle trips alone, but in combination with mixed uses and appropriate densities, strong urban design can support and further encourage additional walking and biking trips. In an adequately dense environment around a transit station, mixed land uses and strong urban design characteristics can reduce automobile trips by 7 percent.⁶

Despite the clear effect that the evolution of new transportation technologies has had on historic land use patterns, the effect of any single project or program of transportation improvements is generally tied to existing land use patterns. And increasingly, housing affordability, lifestyle and educational preferences, and public housing and tax policies, are key factors in land use decisions.

Other reasons why the link between transportation and land changes may be changing are:

- Local general plans, zoning and other land use regulations, as well as local political attitudes sometimes limit the ability and often temper the speed at which developers can initiate market-driven responses to changes in accessibility.
- As the relative cost of transportation has decreased, so too has the role of transportation in location decisions (Cervero, 1986).
- Most importantly, recent changes in accessibility have been too small to change the cost of travel significantly within the urban area.

Finally, in a multi-centered region, any one location is equally accessible to many other locations, which necessarily limits the effect that relative accessibility has on the choice of location. That said, rail transit systems and the potential they offer for transit-supportive development around stations can have an impact on land use with supportive local general plan policies and zoning.

Agricultural Land Use

Current and Historical Agricultural Uses

The Bay Area has a significant amount of land in agricultural uses. In 2002, over half of the region's approximately 4.5 million acres were classified as agricultural land (California Department of Conservation, 2004). Of these 2.4 million acres of agricultural land, over 70 percent (about 1.7 million acres) are used for grazing. Table 2.3-4 shows the acres of agricultural lands, by farmland type, for each county in the region, excluding San Francisco County. Figure 2.3-4 shows the location of these agricultural lands within the region. It is noted that the classification of agricultural lands is based primarily on soils and climate, though Prime Farmland, Farmland of Statewide Importance, and Unique Farmland must have been used for agricultural production at some time during the previous four years.

⁶ *ibid.*

Table 2.3-4: Bay Area Agricultural Lands

	Alameda	Contra Costa	Marin	Napa	San Mateo	Santa Clara	Solano	Sonoma ¹	Region
Prime Farmland ²	6,328	33,720	8	31,944	2,503	28,816	143,211	37,029	283,559
Farmland of Statewide Importance ³	1,485	9,735	418	9,735	178	4,244	7,584	18,914	52,293
Unique Farmland ⁴	2,100	4,463	254	17,816	2,800	1,404	13,735	30,290	72,862
Farmland of Local Importance ⁵	0	52,707	66,428	19,793	3,744	7,711	0	87,634	238,017
Important Farmland Subtotal	9,913	100,625	67,108	79,288	9,225	42,175	164,530	173,867	646,731
Grazing Land ⁶	245,728	172,368	90,315	180,109	45,829	388,696	201,338	432,684	1,757,067
Agricultural Land Subtotal	255,641	272,993	157,423	259,397	55,054	430,871	365,868	606,551	2,403,798

¹ Agricultural land use for Sonoma County uses data from year 2000. Data for year 2002 was not available at the time of printing.

² Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields.

³ Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture.

⁴ Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards.

⁵ Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

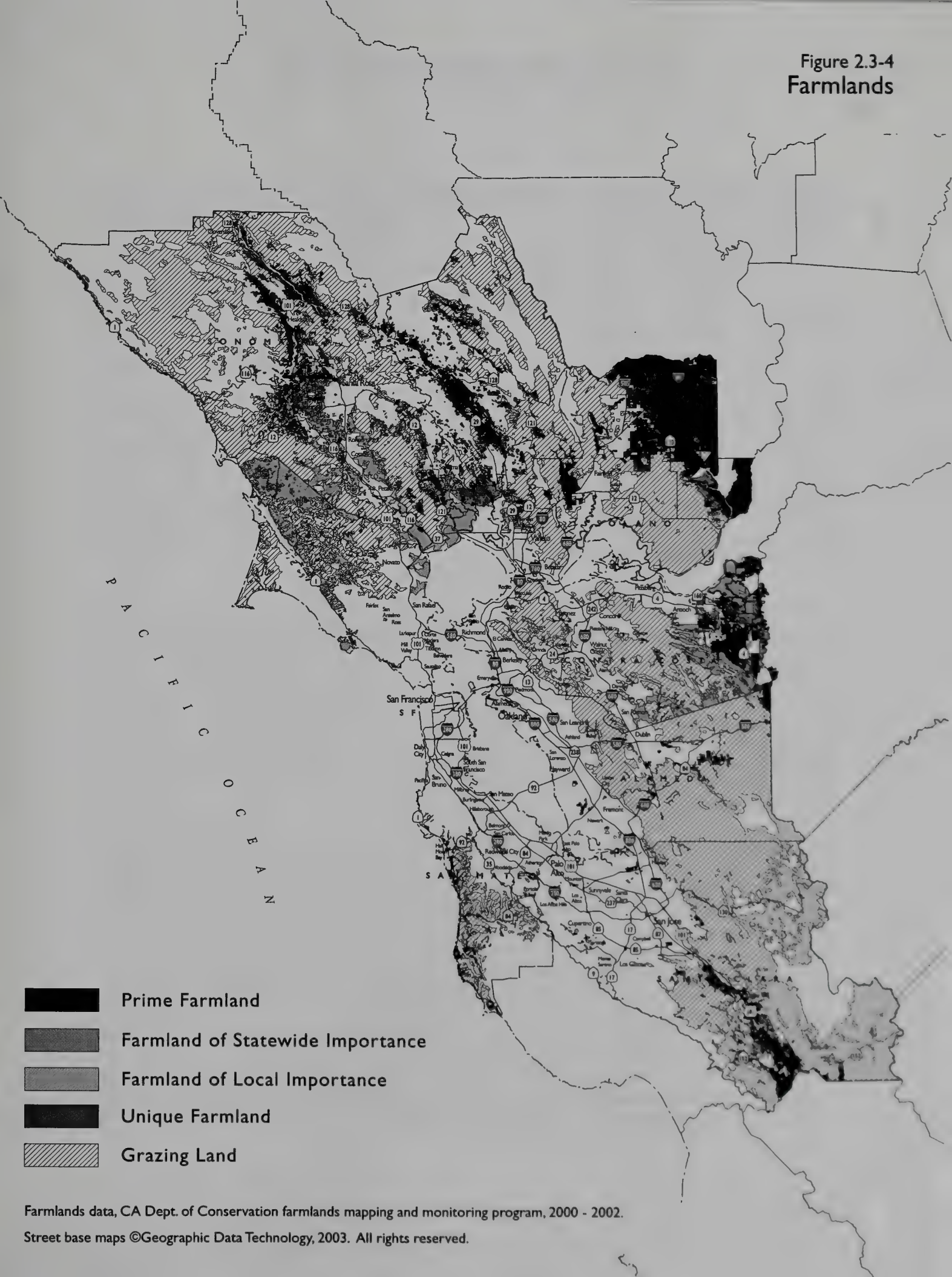
⁶ Land on which the existing vegetation is suited to the grazing of livestock.

Source: California Department of Conservation, 2004

Products grown in the Bay Area include field crops, fruit and nut crops, seed crops, vegetable crops and nursery products. Field crops, which include corn, wheat, and oats, as well as pasture lands, represent approximately 87 percent of total farm acreage (County Crop Reports, 2003). The remainder of agricultural land is used to grow crops such as grapes, tomatoes, walnuts, olives, beans, various other fruits and vegetables, and nursery products such as indoor plants, cut flowers, and Christmas trees.

Over the last 50 years, a large amount of agricultural land has been converted to urban uses in the Bay Area. According to the U.S. Census of Agriculture, the region had over 3 million acres of Land in Farms in 1954. By 1997, Land in Farms, which includes pasture lands, decreased by 32 percent to just over 2 million acres (U.S. Department of Agriculture, 1978, 1997). During this same period, Cropland Harvested decreased by 43 percent. Irrigated Land, however, increased by 9 percent, due to a four-fold increase in Napa County, and increases in Solano and Sonoma Counties. Table 2.3-5 shows historical agricultural land data for all the region's nine counties.

Figure 2.3-4
Farmlands



Farmlands data, CA Dept. of Conservation farmlands mapping and monitoring program, 2000 - 2002.

Street base maps ©Geographic Data Technology, 2003. All rights reserved.

Table 2.3-5: Bay Area Agricultural Lands, 1954 and 1997

	1954			1997			Percent Change 1954-1997		
	Cropland Harvested	Land in Farms	Irrigated Land in Farms	Cropland Harvested	Land in farms	Irrigated land	Cropland Harvested	Land in farms	Irrigated land
Alameda	59,548	316,994	22,599	12,628	258,070	10,480	-79%	-19%	-54%
Contra Costa	85,807	324,856	50,117	28,391	147,859	30,416	-67%	-54%	-39%
Marin	12,133	236,956	974	5,776	149,663	777	-52%	-37%	-20%
Napa	52,168	311,907	8,390	50,305	212,401	46,324	-4%	-32%	452%
San Francisco	88	307	n/a	0	21	18	-	-93%	-
San Mateo	24,194	84,247	6,623	6,046	44,588	4,298	-75%	-47%	-35%
Santa Clara	148,056	590,041	114,677	23,172	318,654	18,731	-84%	-46%	-84%
Solano	135,071	423,423	79,971	141,017	362,102	161,621	4%	-14%	102%
Sonoma	98,053	761,832	20,231	80,771	570,804	57,181	-18%	-25%	183%
Total	615,118	3,050,563	303,582	348,106	2,064,162	329,846	-43%	-32%	9%

Source: U.S. Census of Agriculture, 1978, 1997

Williamson Act Lands

In 1965, the State Legislature passed the California Land Conservation Act (better known as the Williamson Act) in response to agricultural property tax burdens resulting from rapid land value appreciation. Rapidly rising property taxes, resulting from nearby urbanization, made agricultural uses increasingly less economically viable. The Act allows local governments to assess agricultural land based on the income-producing value of the property, rather than the "highest and best use" value, which had previously been the rule. The Legislature intended that the Act help farmers by providing property tax relief, and by discouraging the unnecessary and premature conversion of agricultural land to non-agricultural uses (California Department of Conservation, 1986).

Agricultural land under Williamson Act contract includes both "prime" and "nonprime" lands. The California Land Conservation Acts defines prime agricultural land as: 1) USDA Class I or II soils; 2) Storie Index soil rating 80 to 100; 3) land that has returned a predetermined annual gross value for three of the past five years; 4) livestock-supporting land with a carrying capacity of at least one animal unit per acre; or 5) land planted with fruit or nut trees, vines, bushes or crops that have a non-bearing period of less than five years and that will normally return a predetermined annual gross value per acre per year during the commercial bearing period (Government Code Section 51200-51207). Nonprime lands include pasture and grazing lands and other non-irrigated agricultural land with lesser quality soils. It is noted that prime agricultural lands under the Williamson Act are defined differently from Prime Farmland as identified by the California Department of Conservation.

In 2001, land under Williamson Act contract in the Bay Area totaled over 1.2 million acres. Of this total, about 212,000 acres were prime farmland and just over 1 million acres were nonprime

(California Department of Conservation, 2003b). Lands under Williamson Act contract, therefore, are primarily used for pasture and grazing and not for the cultivation of crops. Nearly 70 percent of both prime and nonprime lands under contract are located in Santa Clara, Solano and Sonoma Counties. A total of 55 percent (116,678 acres) of prime lands under contract are located in Solano County. Table 2.3-6 shows the amount of agricultural lands under Williamson Act contract in each of the Bay Area's nine counties.

Table 2-3.6 Williamson Act Lands, 2001

	<i>Prime</i>	<i>Nonprime</i>	<i>Total</i>	<i>Percent</i>
Alameda	10,024	126,806	136,830	11%
Contra Costa	9,053	39,965	49,018	4%
Marin	14,688	78,556	93,244	7%
Napa	17,535	60,532	78,067	6%
San Mateo	2,951	43,882	46,833	4%
Santa Clara	11,414	324,042	335,456	26%
Solano	116,478	148,033	264,511	21%
Sonoma	30,147	254,720	284,867	22%
Bay Area	212,290	1,076,536	1,288,826	100%

Source: California Department of Conservation, 2003

Existing And Future Housing Stock

The Bay Area has experienced a 29 percent increase in the number of occupied housing units from 1980 to 2003. (DOF, 2003a and Census, 1980) (Table 2.3-7). In 2003, Santa Clara and Alameda counties had the highest number occupied housing units in the Bay Area with 582,252 and 534,432 units, respectively. Napa County had the lowest number with 47,175 units. Between 2000 and 2030, the number of occupied housing units is expected to increase by 29 percent. Santa Clara and Alameda counties will continue to have the highest proportion of occupied housing units in the region with 24 and 21 percent, respectively, and Napa County the lowest with 2 percent, respectively. According to *ABAG Projections 2003*, the distribution of housing stock across the region's nine counties in 2030 will be roughly equivalent to the distribution in 2000.

The majority of counties saw an increase in the number of persons per household since 1980 with the exception of Alameda, Santa Clara, Solano, and Sonoma counties, which experienced a decrease. According to *ABAG Projections 2003*, in 2000, the average household size in the Bay Area was 2.69 (Table 2.3-8). During this time, Marin and San Mateo counties had the highest household size in the region with 2.92 and 2.90 persons per household respectively, while Alameda County had the lowest with 2.30 persons per household, respectively. Table 2.3-5 shows that household size is expected to peak at 2.73 persons per households between 2005 and 2010 and then decrease slightly before leveling off in 2030 at 2.71 persons per household.

Table 2.3-7: Occupied Housing Units in the Bay Area (1980-2030)

County	DOF	Census 1980	ABAG Projections 2003										Growth: % of Total	
			2003	1980	2000	2005	2010	2015	2020	2025	2030	2000-2030	2000	2030
Alameda	534,432	426,092	523,365	543,394	564,171	587,684	614,099	642,202	675,922	152,557	21	21		
Contra Costa	355,686	241,534	344,129	364,911	386,944	408,544	430,045	444,909	459,884	115,755	14	14		
Marin	101,969	88,723	100,650	102,689	106,586	109,778	112,108	113,788	115,376	14,726	4	4		
Napa	47,175	36,624	45,402	48,441	51,231	53,562	55,571	56,391	57,232	11,830	2	2		
San Francisco	338,913	298,956	329,697	336,651	344,359	352,795	363,482	381,831	402,594	72,897	13	13		
San Mateo	257,849	225,201	254,104	260,951	267,726	277,985	288,180	296,515	301,012	46,908	10	9		
Santa Clara	582,252	458,519	565,862	596,743	629,349	662,072	702,348	733,324	768,045	202,183	23	24		
Solano	136,227	80,426	130,403	143,176	155,418	169,230	178,202	186,451	193,370	62,967	5	6		
Sonoma	178,085	114,474	172,403	184,391	196,285	202,356	206,901	210,001	213,157	40,754	7	7		
Region	2,532,588	1,970,549	2,466,015	2,581,347	2,702,069	2,824,006	2,950,936	3,065,412	3,186,592	720,577	100	100		

Note: information in this table was based on MTC's Superdistrict data.

Source: DOF, 2003a; Census, 1980; MTC Superdistrict and County Summaries of ABAG's Projections 2003 2000-2030 Data Summary, 2003

Table 2.3-8: Average Household Size in the Bay Area (1980-2030)

County	Census		ABAG Projections 2003							
	DOF	1980	2000	2005	2010	2015	2020	2025	2030	
Alameda	2.64	2.55	2.71	2.77	2.77	2.76	2.75	2.75	2.75	
Contra Costa	2.28	2.19	2.72	2.75	2.74	2.74	2.73	2.71	2.71	
Marin	2.59	2.56	2.34	2.37	2.37	2.36	2.35	2.35	2.35	
Napa	2.92	2.76	2.62	2.63	2.63	2.61	2.59	2.58	2.58	
San Francisco	2.75	2.53	2.30	2.31	2.30	2.28	2.27	2.27	2.27	
San Mateo	2.77	2.69	2.74	2.77	2.78	2.78	2.78	2.77	2.77	
Santa Clara	2.35	2.43	2.92	2.94	2.95	2.94	2.93	2.92	2.92	
Solano	2.74	2.58	2.90	2.96	2.95	2.93	2.92	2.90	2.90	
Sonoma	2.90	2.82	2.60	2.64	2.62	2.61	2.61	2.60	2.60	
Region			2.69	2.73	2.73	2.72	2.72	2.71	2.71	

Note: information in this table was based on MTC's Superdistrict data.

Source: DOF, 2003a; Census, 1980; MTC Superdistrict and County Summaries of ABAG's Projections 2003 2000-2030 Data Summary, 2003

REGULATORY SETTING

The regulatory setting includes federal and State agencies and laws, local regulatory bodies, and local control mechanisms guiding land use and transportation decisions.

Federal Regulations

U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) maps soils and farmland uses to provide comprehensive information necessary for understanding, managing, conserving and sustaining the nation's limited soil resources. In addition to many other natural resource conservation programs, the NRCS manages the Farmland Protection Program, which provides funds to help purchase development rights to keep productive farmland in agricultural uses. Working through existing programs, USDA joins with state, tribal, or local governments to acquire conservation easements or other interests from landowners.

Department of Housing and Urban Development (HUD)

The Department of Housing and Urban Development (HUD) is the federal agency responsible for national policy and programs that address housing needs in the U.S. HUD aims to improve and develop the Nation's communities and enforce fair housing laws. HUD plays a major role in supporting homeownership by underwriting homeownership for lower- and moderate-income families through its mortgage insurance programs.

State Regulations

Bay Conservation and Development Commission (BCDC)

The Bay Conservation and Development Commission is one of California's two designated coastal management agencies that administer the federal Coastal Zone Management Act (CZMA) in California. CZMA gives State coastal management agencies regulatory control over all activities that may affect coastal resources including any new development, and highway improvement projects that use federal funds.

Department of Housing and Community Development (HCD)

In response to state population and household growth, and to ensure the availability of affordable housing for all income groups, the State Department of Housing and Community Development (HCD) is responsible for determining the regional housing need for all jurisdictions in California.

Regional/Local Regulations

Association of Bay Area Governments (ABAG)

Through its role as the Bay Area's council of governments (COG), the Association of Bay Area Governments (ABAG) has been designated by the State and federal governments as the official comprehensive planning agency for the Bay Area. ABAG reviews projects of regional significance for consistency with regional plans and is also responsible for preparation of the Regional Housing Needs Assessment (RHNA), pursuant to California Government Code Section 65584(a). ABAG's locally adopted *Regional Housing Needs Determination Allocation* (2001-2006) report published March 15, 2001, provides a policy guide for planning the region's housing, economic development, environmental quality, transportation, recreation, and health and safety.

Local Agency Formation Commissions

Under State law, each county must have a local agency formation commission (LAFCO), which is the agency that has the responsibility to create orderly local government boundaries, with the goal of encouraging "planned, well-ordered, efficient urban development patterns," the preservation of open space lands, and the discouragement of urban sprawl (Governor's Office of Planning and Research, 1997). While LAFCOs have no land use power, their actions determine which local government will be responsible for planning new areas. LAFCOs address a wide range of boundary actions, including creation of spheres of influences for cities, adjustments to boundaries of special districts, annexations, incorporations, detachments of areas from cities, and dissolutions of cities.

Local Control Mechanisms

General Plans

The most comprehensive land use planning for the San Francisco Bay Area region is provided by city and county general plans, which local governments are required by State law to prepare as a guide for future development. The general plan contains goals and policies concerning topics that are mandated by State law or which the jurisdiction has chosen to include. Required topics are: land use, circulation, housing, conservation, open space, noise, and safety. Other topics that local governments frequently choose to address are: public facilities, parks and recreation, community design, or growth management. City and county general plans must be consistent with each other. County general plans must cover areas not included by city general plans (i.e., unincorporated areas).

Specific and Master Plans

A city or county may also provide land use planning by developing community or specific plans for smaller, more specific areas within their jurisdiction. These more localized plans provide for focused guidance for developing a specific area, with development standards tailored to the area, as well as systematic implementation of the general plan.

Zoning

The city or county zoning code is the set of detailed requirements that implement the general plan policies at the level of the individual parcel. The zoning code presents standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction. Since 1971, State law has required the city or county zoning code to be consistent with the jurisdiction's general plan.

Growth Control

Local growth control endeavors to manage community growth by various methods, including tying development to infrastructure capacity or traffic level of service standards, limiting the number of new housing units, setting limits on the increase of commercial square footage, linking development to a jobs/housing balance, and the adoption of urban growth boundaries. These goals and others can be achieved through the adoption of a countywide Growth Management Program (GMP). Growth Management programs, including urban growth boundaries, have been implemented by County government and/or cities in all of the nine Bay Area counties.

Public Ownership, Purchase of Development Rights, and Open Space Acquisition

Local governments and special districts, either on their own or working with land trusts and conservancies, can acquire fee title to agricultural and open space lands or purchase development rights to preserve rural and agricultural areas, watersheds, or critical habitat, or to create public parks and recreational areas. Such actions have been undertaken in all Bay Area counties and have had significant effects on the shape of cities and urban form in the region.

IMPACT ANALYSIS

The land use impact analysis assesses the potential for significant adverse impacts related to conversion or loss of important agricultural lands and open space; community displacement and disruptions, including potential loss of housing and businesses and separation of people from community resources; project consistency with adopted land use plans; and project influences on future land use and development decisions (based on changes to access and mobility).

SIGNIFICANCE CRITERIA

The land use analysis uses the following significance criteria.

- **Criterion 1: Converts farmland to transportation use.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact when transportation projects convert substantial amounts of important agricultural lands and open space for the development of transportation facilities. Such conversion from natural resource use would be significant whether or not the proposed facility is consistent with local or regional plans.

- **Criterion 2: Causes residential, business, or urban open space land use disruption or displacement.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if new construction and/or right-of-way acquisition associated with the transportation projects result in residential or business disruption or displacement.
- **Criterion 3: Causes permanent community disruption.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects result in permanent alterations to the characteristics and qualities of an existing neighborhood or community by separating residences from community facilities and services, restricting access to commercial or residential areas, or eliminating community amenities.
- **Criterion 4: Conflicts with local plans.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects substantially conflict with the land use portion of adopted local general plans or other applicable land use plans. Also, a potentially significant impact would be identified if transportation projects would substantially influence future land use patterns and development, contrary to adopted plans.

METHOD OF ANALYSIS

The degree of land use impact will vary among the proposed transportation improvements. The land use analysis goes beyond a simple listing of projects that could have potential impacts (over 150 projects in all) and quantifies impacts by corridor to provide an understanding of: 1) the general amount and type of land that might be impacted; and 2) where impacts may be concentrated. Because there are no details about land requirements for the various projects, the analysis necessarily makes general assumptions about the amount of land needed to implement the proposed projects. As a result, the analysis presents a worst-case scenario of land use impacts, and the acreages in the analysis should be used as a guide in assessing relative impacts, rather than as absolute statements of impacts. Site-specific analysis will be required when individual projects are considered for approval.

Farmlands. This EIR identifies the factors affecting development impacts in specific corridors and determines whether any of the Transportation 2030 projects may affect the relative ability of local jurisdictions to protect agriculture and open space. To conduct the farmland analysis, 178 of the 912 projects in the proposed Transportation 2030 Plan were identified as projects with potential physical impacts. The 178 projects were then studied using Geographic Information Systems (GIS) and compared with the farmland maps referenced in the Environmental Setting (above) to determine the extent of the physical impacts of the proposed Transportation 2030 Plan projects on important agricultural or permanent open space lands.

Land Use Disruptions/Displacement. The impact analysis includes investigation of potential direct impacts due to physical disruptions of existing neighborhoods, including displacement of residents and businesses, as a result of implementation of proposed transportation improvements. The analysis is presented at the corridor level and involves assumptions based on

limited information where the underlying transportation projects are in the early planning phases. The assessment identifies Transportation 2030 Plan projects that may involve major right-of-way acquisition and generally identify locations where the right-of-way acquisition could result in the displacement of existing homes and businesses. This analysis is necessarily limited because it must, for the most part, be based on assumptions on how future projects will be designed, rather than on actual project designs.

Additionally, the EIR analyzes the potential for community disruption by reviewing the location of Transportation 2030 Plan projects in relation to surrounding land uses and community development. Highway and transit extensions and major interchange projects are assumed to have a higher potential to disrupt or divide existing communities, while highway widening and other projects along established transportation rights-of-way are assumed to have a lower potential to divide or disrupt existing communities or neighborhoods.

The projects with potential physical impacts were studied using Geographic Information Systems (GIS) and compared with year 2000 ABAG land use maps (which included protected open space) to ascertain whether land uses such as neighborhoods, housing, and businesses would be displaced or disrupted.

Consistency with Land Use Plans. The land use analysis identifies potential conflicts or inconsistencies between the proposed Transportation 2030 Plan and adopted land use policies of the various jurisdictions within the study area. The analysis identifies Transportation 2030 projects that intersect with airport areas.

SUMMARY OF IMPACTS

Direct Impacts

Implementation of the transportation improvements in the proposed Transportation 2030 Plan could result in loss of agricultural land, long term land use impacts and short term disruptions, including residential and business displacements, as a result of the construction of highway and transit projects proposed in the Plan.

Conversion of Farmland

Overall, there are 59 projects in the proposed Transportation 2030 Plan in 10 corridors with the potential to impact 3,430 acres of farmland, assuming the worst case disturbance.

Land Use and Community Disruption/Displacement

There are 151 projects in the proposed Transportation 2030 Plan in 12 corridors with the potential to impact existing land uses within communities. These projects could cause short term community disruption in locations where transportation improvements involve significant construction activity. The duration of impact on adjacent and nearby land uses could vary from several months to several years.

Some of these same projects could also result in significant and permanent disruption of existing communities; however, the potential for such disruption is minimized as a result of MTC's criteria used to evaluate potential Plan projects. These criteria specifically address community vitality and the relation to a community's development and/or redevelopment activities. The large freeway, expressway and rail transit projects in the Plan all involve widenings or other capacity increases along existing transportation corridors; they would not split or bisect established communities that share historical links.

Some of the projects are intended to enhance the quality of life in existing communities and neighborhoods. Other projects would involve redevelopment with the potential to adversely affect existing neighborhoods adjacent to the sites while at the same time having the potential to create new residential communities within the existing urban fabric.

Consistency with Local Plans

The proposed transportation improvements in the Transportation 2030 Plan effectively do not conflict with the land use designations of current local general plans.

Other Direct Impacts

The implementation of some transportation improvements in the proposed Transportation 2030 Plan could adversely affect adjoining land. Impacts could include increased noise, disturbance of cultural resources, loss or modifications to significant natural habitats, etc. While these impacts can affect the compatibility of the proposed transportation improvements with adjoining uses, these impacts are addressed in the related chapters of Part Two of this EIR.

Indirect/Cumulative Impacts

Concurrent implementation of the proposed Transportation 2030 Plan and forecast development of residential and employment land uses would result in expansion of urban areas and changes in land use and the character of neighborhoods and districts in the Bay Area.

IMPACTS AND MITIGATION MEASURES

Impact

2.3-1 Implementation of the proposed Transportation 2030 Plan could convert farmland, including prime agricultural land designated by the State of California, to transportation use. (*Significant*)

Overall, there are 59 projects in the proposed Transportation 2030 Plan in 10 corridors with the potential to impact 3,430 acres of farmland, assuming the worst case disturbance.⁷ Of that total, nearly half is grazing land, 24 percent is prime farmland, and the remaining quarter is made up of

⁷ The acreage calculation is based on a 100 ft. buffer on either side of the centerline of a linear project (the existing road width was then subtracted out for road widening projects) and a 100 ft. radius around the center of a point project.

Farmland of Local & Statewide Importance and Unique Farmland, as documented in Table 2.3-9.⁸ Of those 59 projects, 9 are new roads, most (38) are road widening projects, and the remaining 12 are extensions, intersections, or other types of physical improvement projects, like parking lots or transit terminals, as illustrated in Table 2.3-10.

Table 2.3-9: Type of Farmland Potentially Affected by Proposed Project

Type	Acres	Percent
Farmland of Local Importance	651	19%
Farmland of Statewide Importance	167	5%
Grazing Land	1,674	49%
Prime Farmland	840	24%
Unique Farmland	97	3%
Total Farmland	3,430	100%

Source: MTC; Dyett & Bhatia, 2004

Table 2.3-10: Types of Projects Potentially Affecting Agricultural Land

Corridor	Type of Project					Total
	Extension	Intersection	New	Other	Widening	
Delta			1		4	5
Diablo			1	1	2	4
Eastshore-North			3		2	5
Fremont-South	1				3	4
Golden Gate	1	1	1	1	7	11
North Bay East-West		1	2		3	6
Peninsula	2				1	3
Silicon Valley	3				11	14
Sunol Gateway				1	2	3
Tri-Valley			1		3	4
Total	7	2	9	3	38	59

Source: MTC; Dyett & Bhatia, 2004

⁸ The farmland acre totals include land not currently in production. In some cases, these farmlands may be zoned for urban development.

Table 2.3-11: Farmland Acres Potentially Affected by Proposed Project

<i>Corridor</i>	<i>Type of Farmland</i>					<i>Total</i>
	<i>Farmland of Local Importance</i>	<i>Farmland of Statewide Importance</i>	<i>Grazing Land</i>	<i>Prime Farmland</i>	<i>Unique Farmland</i>	
Delta	126	28	49	66	1	270
Diablo	5		39			44
Eastshore-North		21	181	209	28	440
Fremont-South		3	175	77	11	265
Golden Gate	350	54	163	174	41	782
North Bay East-West	134	11	130	27	2	303
Peninsula	6			4	5	15
Silicon Valley	32	44	454	297	5	832
Sunol Gateway		1	455	43	17	516
Tri-Valley		8	195	8	2	213

Source: MTC; Dyett & Bhatia, 2004

The 10 corridors containing farmland potentially affected by Transportation 2030 Plan projects are shown in Table 2.3-11. The Silicon Valley and Golden Gate Corridors are the most impacted, with 832 and 782 acres of potentially threatened farmland, respectively. In Silicon Valley, more than half of the impacted acres are grazing land. In Golden Gate, however, nearly 80 percent of the affected land is either Prime or Unique Farmland or Farmland of Local or Statewide Importance. Of the six corridors with 270 or more affected acres, all but the Silicon Valley are protected by one or more Urban Growth Boundaries (UGB) or Countywide Land Use Measures, as described in Table 2.3-12. This means that if the land falls outside the UGB, there are already regulatory measures in place to aid local jurisdictions in farmland protection. The Diablo and Peninsula Corridors are the least affected, with only 44 and 15 acres of concern.

The likelihood of conversion increases where transportation improvements are located at the edges of existing urban areas, along waterways, or over hills separating urban areas. The extent of this impact will depend on the final design of the identified projects and on the project-specific analysis required by CEQA to determine the importance of the endangered resource land.

Given the predominant location of most projects within developed areas, and the fact that most projects happen within existing corridors, the conversion of resource land is likely to be limited. Many municipalities have already planned for the conversion of farmlands to urban uses, especially where it is used for grazing (which is not an endangered agricultural activity) rather than agricultural production. Thus, on a regional level the conversion of farmland to transportation uses would likely not be significant; however, some conversion could be significant on a local level.

Table 2.3-12: Urban Growth Boundaries and County-wide Land Use Measures

Corridor	Delta	Eastshore-North	Golden Gate	North Bay East-West	Silicon Valley	Sunol Gateway
County-wide Measure	Contra Costa	Solano	Marin	Solano, Napa		Alameda
Urban Growth Boundary		Benicia, Dublin Hills	Healdsburg, Windsor, Santa Rosa, Rohnert Park, Cotati, Petaluma, Novato	City of Sonoma, City of Napa		Dublin Hills, Pleasanton, Palo Alto

Source: Greenbelt Alliance, 2004

Mitigation

2.3(a) Project sponsors shall commit to mitigation measures at the time of certification of their project environmental document that would minimize or eliminate conversion of farmland. Typical mitigation measures that could be considered by project sponsors include:

- Corridor realignment, where feasible, to avoid farmland, especially prime agricultural land;
- Buffer zones and setbacks to protect the function of farmland; and
- Berms and fencing to reduce conflicts between transportation and farming uses.

These measures are not expected to reduce this impact to less-than-significant in all cases. The extent of this impact will depend on the final design of each transportation improvement and on the project-specific analysis require by CEQA to determine the importance of the farmland to be converted.

Impact

2.3-2 Implementation of the Proposed Transportation 2030 Plan could disrupt or displace existing land uses, neighborhoods, and communities in the short term. (Significant)

The proposed transportation improvements in the Transportation 2030 Plan could result in short term community disruption where such improvements involve significant construction activity. The significance of the disruption will depend upon the size and extent of the improvement, the nature of the disruption, and the duration of construction. While construction activities are typically limited in duration, work on major transportation improvements such as rail transit extensions, freeway widening projects and interchange reconstructions, often span a period of several years because the projects are large and complex and/or because the construction contractors are required to keep traffic flowing on existing lanes passing through the construction sites. As a result, the construction of major transportation improvements can result in frequent

inconveniences and irritations for residents of communities immediately adjacent to the construction sites over a period of many months.

Table 2.3-13: Type and Amount of Land Use Potentially Disrupted by Proposed Project

<i>Land Use</i>	<i>Acres</i>
Employment Areas	2,564
Residential	2,419
Urban Open Space	857
Total	5,840

Source: MTC; Dyett & Bhatia, 2004

There are 151 projects in the proposed Transportation 2030 Plan in 12 corridors with the potential to impact 5,840 acres of existing land uses, assuming the worst case disturbance. Of that total, 44 percent is commercial use, another 41 percent is residential use, and the remaining 15 percent is urban open space, as documented in Table 2.3-13. Of those 151 projects, most (97) are widening projects, 20 are extensions, 13 are new roads, and the remaining 21 are intersections or other types of physical improvement projects, like parking lots or transit terminals, as illustrated in Table 2.3-14. These projects could cause temporary disruptions of homes, businesses, and urban open space.

Table 2.3-14: Types of Projects Potentially Disrupting Existing Land Use

<i>Corridor</i>	<i>Type of Project</i>					<i>Total</i>
	<i>Extension</i>	<i>Intersection</i>	<i>New</i>	<i>Other</i>	<i>Widening</i>	
Delta		1	1		3	5
Diablo	2		1	1	3	7
Eastshore-North			3	2	5	10
Eastshore-South	3		2		3	8
Fremont-South	3			2	4	9
Golden Gate*	1	2	1	1	9	14
Napa Valley					1	1
North Bay East-West		1	1		4	6
Peninsula	4	3		3	12	22
Silicon Valley	7	4	4		47	62
Sunol Gateway				1	2	3
Tri-Valley					4	4
Total	20	11	13	10	97	151

Source: MTC; Dyett & Bhatia, 2004

The 12 corridors containing existing land uses potentially affected by Transportation 2030 Plan projects are shown in Table 2.3-15. The Silicon Valley and Golden Gate corridors are the most impacted, with 1,062 and 1,362 acres of threatened land use, respectively. In the Golden Gate corridor, more of the potential disruption occurs in commercial areas, while in the Silicon Valley corridor, the disruption is more equally divided between commercial and residential uses; only nine percent is urban open space. The Napa Valley corridor has minimal concern of displacement, with only six threatened acres. Projects in four other corridors—Delta, Diablo, Eastshore-North, and Eastshore-South—have less of a potential impact, with less than 250 acres of concern in each corridor.

Table 2.3-15: Existing Land Use Acres by Corridor Affected by Proposed Project

Corridor	Land Use			Total
	Employment Areas	Residential	Urban Open Space	
Delta	27	60	51	138
Diablo	52	128	46	226
Eastshore-North	79	105	62	246
Eastshore-South	83	83	9	176
Fremont-South	382	313	144	839
Golden Gate	684	544	135	1,362
Napa Valley	1	1	1	3
North Bay East-West	96	145	135	504
Peninsula	377	247	45	669
Silicon Valley	505	466	91	1,062
Sunol Gateway	308	325	173	806
Tri-Valley	55	92	50	197

Source: MTC; Dyett & Bhatia, 2004

Mitigation

2.3(b) Project sponsors shall commit to site-specific mitigation measures at the time of certification of their project environmental document that would minimize or eliminate short term (often construction-related) disruption or displacement of existing land uses, specifically residential, commercial, or urban open space. Typical mitigation measures that could be considered by project sponsors include:

- Berms and fencing to reduce conflicts between transportation and existing uses.
- Regulate construction operations on existing facilities to minimize traffic disruptions and detours, and to maintain safe traffic operations;
- Ensure construction operations are limited to regular business hours where feasible;
- Control construction dust and noise; and,

- Control erosion and sediment transport in stormwater runoff from construction sites.

These measures are not expected to reduce this impact to a less-than-significant level in all cases. The extent of this impact will depend on the final design of each transportation improvement and the phasing of implementation.

Impact

2.3-3 Transportation improvements in the proposed Transportation 2030 Plan have the potential to cause permanent community disruption. (*Significant, mitigable*)

Several improvements in the proposed Transportation 2030 Plan could result in significant and permanent disruption of existing communities; residential, commercial, and open space land could be lost as a result of transportation improvements. However, the potential for such disruption is minimized as a result of MTC's Resolution 3564 performance criteria used to evaluate candidate projects to be included in the plan, which specifically address community vitality and the relation to a community's development and/or redevelopment activities. As a result, proposed transportation improvements with the highest risk of disturbing the fabric and character of existing neighborhoods were rejected or modified at the local level well before they were proposed for inclusion in the RTP. Historically, transportation improvements with the highest risk of community disruption include new freeways, expressways, or rail lines on alignments that pass through existing urban areas and pockets of development in rural areas. Few, if any, of the specific projects in the proposed Transportation 2030 Plan fit this historical mold. The large freeway, expressway and rail transit projects in the Plan all involve widening or other capacity increases along existing transportation corridors; they would not split or bisect established communities that share historical links.

Some projects in the proposed Transportation 2030 Plan would expand interconnections between neighborhoods and communities that are currently separated by major transportation corridors. Examples include bridges or undercrossings (with bike lanes) of commuter rail lines, bicycle/pedestrian overcrossings of freeways, and urban trail and pathway projects.

Local governments have initiated projects in the proposed Transportation 2030 Plan with the intention of enhancing the quality of life in existing communities and neighborhoods. Examples include new facilities to carry traffic around downtown commercial districts in Livermore and Brentwood, traffic calming projects in many communities, and bicycle and pedestrian projects throughout the region.

The proposed Transportation 2030 Plan would also provide funding assistance for several Transit Villages and transit-oriented development projects in the vicinity of some BART stations, and other Smart Growth initiatives that could involve the redevelopment of existing urban sites with higher density development and support for transportation improvements for infill development. These projects have the potential to adversely affect existing neighborhoods adjacent to the sites because of increased local traffic, safety and security concerns, sunlight and view blockage and privacy effects, while at the same time they have the potential to create new residential communities within the existing urban fabric. In all cases, local planning approvals will be

required for such land development and local traffic impacts and other physical effects would be studied if there were a potential for significant impacts.

Mitigation

2.3(c) Project sponsors shall commit to site-specific mitigation measures at the time of certification of their project environmental document. Mitigation measures will be identified to the extent feasible to minimize impacts. Typical measures include:

- Berms and fencing to reduce conflicts between transportation and existing uses;
- Corridor realignment, where feasible, to avoid land use disruption; and
- Buffer zones and setbacks to protect the continuity of land uses.

2.3(d) MTC should encourage project sponsors through EIR comments to consider design elements in their projects that would maintain or enhance neighborhood accessibility.

2.3(e) MTC shall continue to support locally sponsored traffic calming and alternative transportation initiatives such as paths, trails, overcrossings, and bicycle plans that foster improved neighborhoods and community connections.

Project-specific mitigation measures combined with affirmative efforts to foster local-scale alternative transportation initiatives would be expected to reduce this potentially significant effect on community disruption to a less-than-significant level if incorporated by project sponsors.

2.3-4 Implementation of the proposed Transportation 2030 Plan may conflict with existing local General Plans. (*Not significant*)

The interagency screening and evaluation process for all locally-sponsored transportation improvements is built upon a foundation of local general plans. The proposed transportation improvements in the Transportation 2030 Plan originate from the Congestion Management Programs of each county, the Countywide Transportation Plans for a number of counties, and the service plans for a number of transit agencies. These plans and programs have been developed to consider the current needs and future demands identified in local general plans and supporting studies including local traffic management plans, capital improvement programs (CIPs), transit-supportive development plans, streetscape and pedestrian improvements, and bicycle plans.

While transportation improvements on State and Interstate highways and those sponsored by special districts – such as BART, AC Transit, SAMTRANS, Golden Gate Transportation District, etc. – are not necessarily derived from local general plans, they are reviewed for consistency with such plans through the congestion management program update process, RTP screening and funding, and environmental review processes. As a result, the proposed transportation improvements in the Transportation 2030 Plan effectively do not conflict with the land use designations of current local general plans. Where the potential for a conflict was perceived during the planning process, such as in the Contra Costa East County Corridors, with completion of capacity and safety improvements to Vasco Road, the SR 4 Bypass, Byron Highway and

existing Route 4 through Brentwood, Oakley and unincorporated areas, the draft Contra Costa Transportation Plan was amended to require an assessment of their potential for inducing additional development that might conflict with the County General Plan and rural land preservation policies and identification of measures to minimize or prevent such inducement. Project-specific mitigation is to include consideration of purchase of abutters' rights of access, preservation of critical habitat and/or open space acquisition.

The proposed Transportation 2030 Plan has a long implementation period, and the financial resources available to MTC may not be sufficient to implement all the projects in the Plan within the 25 year planning period. Moreover local jurisdictions, countywide agencies and MTC may differ on the priority given to specific projects. The resulting priority setting process necessarily adds uncertainty to the timing and level of funding for many projects that have been assumed in adopted General Plans. This has implications for planned development since cities and developers – both responding in part to the marketplace but also to residents' concerns and local fiscal constraints – may postpone or alter development projects in response to the deferment of necessary transportation improvements.

Table 2.3-16 shows the 15 Transportation 2030 projects of significance that fall within one mile of Oakland, San Francisco, or San Jose's airports. The projects must comply with the airports' master plans before they are implemented.

ABAG's Projections 2003, which is used in this EIR, was developed based on local input gathered through the Local Policy Survey conducted by ABAG and the Smart Growth Project. These forecasts may not be entirely consistent with existing local general plans since the policy-based Projections 2003 relies on proactive economic assumptions about land use policies based on smart growth principles. Notably, a recent survey of local jurisdictions conducted by ABAG suggests that there is widespread support for including smart growth measures in their land use policies and decisions. The issue of Projections 2003 consistency with local planning is further addressed in Chapter 3.1.

Cumulative Impact

2.3-5 Concurrent implementation of the proposed Transportation 2030 Plan and forecast development of residential and employment land uses would result in expansion of urban areas and changes in land use and the character of neighborhoods and districts in the Bay Area. (*Significant, unavoidable*)

The proposed Transportation 2030 Plan will be implemented concurrently with substantial residential, commercial, and industrial development in the Bay Area over the next 25 years. ABAG's Projections 2003 estimate that 1,996,555 new residents and about 1,472,610 new jobs will be added during this time period. This growth will require the conversion or redevelopment of considerable land areas in the region. ABAG estimates that about 71,482 acres will be converted to accommodate this planned growth. This development represents conversion of approximately one percent of the land in the Bay Area to urban uses over the next 25 years. Besides the land converted to urban uses, currently urbanized land will be intensified with infill development.

Table 2.3-16: Projects that Intersect with Airport Planning Areas

Project ID	Airport	Corridor	Investment *	Description
22084	OAK	Alameda County	N	New connection to Oakland International Airport North Field connects State Rte. 61 with Earhart Rd
21185	OAK	Eastshore-South	N	Extends the existing 2-lane Eden Road west approximately 1500 feet from Doolittle Drive to adjacent to the City of San Leandro's Water Pollution Control Plant.
22670	OAK	Eastshore-South	V	Constructs HOV lanes on I-880: NB from Hacienda overcrossing to 98th Avenue, and SB from 98th Avenue to Marina Blvd.
21610	SFO	Peninsula	V	US 101 auxiliary lanes from San Bruno Avenue to Grand Avenue
22720	SFO	Peninsula	N	Consists of design work, studies and preservation of right of way for planned grade separation projects as well as construction work in San Mateo County.
22741	SFO/SJC	Peninsula	V	Implements Phase II of Baby Bullet, which will include additional tracks, station, signal and bridge work to increase capacity and operational flexibility.
22800	SJC	Fremont-South	V	Completes Final Design, Civil Construction, Systems Installation, Vehicle Procurement for 16.3 mile extn of BART into Santa Clara Co from Warm Springs, through Milpitas to downtown San Jose, continuing to the Santa Clara Caltrain Sta
21724	SJC	Silicon Valley	N	Auxiliary lanes NB and SB on US 101 between Trimble Rd and Montague Expway.
21744	SJC	Silicon Valley	N	Constructs a bicycle/pedestrian overcrossing at the Caltrain RR tracks to provide access to Brokaw Road and the San Jose Airport.
22147	SJC	Silicon Valley	V	Constructs a new interchange connecting Zanker Rd and Old Bayshore Hwy with N Fourth St and Skyport Dr at US 101.
22169	SJC	Silicon Valley	N	Widens Coleman Ave to 6 lanes from Hedding St and a future Autumn St extn.
22171	SJC	Silicon Valley	N	Extends Autumn St to Coleman Ave with connector from I-880.
22979	SJC	Silicon Valley	N	Constructs a new interchange connecting Zanker Rd and Old Bayshore Hwy with N Fourth St and Skyport Dr at US 101. (Phase 1)
22983	SJC	Silicon Valley	V	Constructs a new interchange connecting Zanker Rd and Old Bayshore Hwy with N Fourth St and Skyport Dr at US 101. (Phase 2)
98139	SJC	Sunol Gateway	N	Improves the ACE Rte between San Joaquin Co and Santa Clara Co, including parking at stations.

*C: Committed; N: New Commitment; V: Vision Element

Source: MTC; Dyett & Bhatia, 2004

Table 2.3-17: Change in Highway Supply, 2030 vs. 2000

	Percent Change in Lane Miles Per Capita
Freeways	92.25%
Mixed Flow	83.13%
HOV	231.78%
Expressways	87.09%
Mixed Flow	86.18%
HOV	104.07%
Arterial//Other	79.87%
Total	83.02%

Source: MTC

Table 2.3-18: Change in Transit Supply: 2030 vs. 2000

	Percent Change In A.M. Passenger Seat Miles Per Capita
Bus	108.91%
Light Rail	108.30%
Rail Rapid	146.98%
Commuter Rail	80.17%
Ferry	137.02%
Total	115.87%

Source: MTC

Mitigation

MTC has no land use authority and cannot directly affect the pattern that future land uses will take. However, it can strive to implement the following measure.

2.3(f) MTC shall continue to participate in and promote the efforts of the Regional Agencies Smart Growth Initiative, which is intended to coordinate regional smart growth efforts to use land more efficiently, optimize transportation and other infrastructure investments, preserve open space, etc. In this way, MTC can pursue the enhanced coordination of local land use plans and investments in the proposed Transportation 2030 Plan.

Because of MTC's limited role in land use planning, this measure is not expected to reduce this impact to a less-than-significant level.

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2.4 Energy

This chapter discusses the energy impacts of implementing transportation improvements in the proposed Transportation 2030 Plan. Issues related to energy use include levels of consumption of non-renewable energy sources for construction of transportation projects and private and commercial transportation.

Transportation energy use is related to the following factors: the efficiency of cars, trucks and public transportation; choice of different travel modes (auto, carpool, and public transit); and miles traveled by these modes. Energy is also consumed with construction and ongoing and routine operation and maintenance of the transportation infrastructure.

Also, because of concerns with increasing concentrations of greenhouse gases in the atmosphere, such as carbon dioxide, this chapter discusses global warming as well.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Energy Types and Sources

Petroleum products supply approximately 39 percent of the energy demand in the U.S. (Energy Information Administration, 1999). Coal and natural gas each supply approximately 23 percent of the national energy demand, and nuclear and renewable sources supply the rest in roughly equal proportions.

Petroleum and natural gas supply most of the energy consumed in California. Petroleum products provide approximately 50 percent of the state's energy demand, and natural gas provides approximately 29 percent (California Energy Commission (CEC), 2002). The remaining 21 percent of the state's energy demand is met by a variety of energy resources, including coal, nuclear, geothermal, wind, solar, and hydropower.

California's transportation sector, including on-road and rail transportation, consumes roughly two quadrillion (million billion) British thermal units (Btu)¹ of energy annually; two quadrillion Btu are equal to 940 thousand barrels of oil consumed every day for 1 year (there are approximately 42 gallons in a barrel). The energy consumed by transportation modes accounts

¹ The units of energy used in this report are British thermal units (Btu), kilowatt-hours (kWh), therms, and gallons. A Btu is the quantity of heat required to raise the temperature of 1 pound of water 1 degree Fahrenheit at sea level. Since the other units of energy can all be converted into equivalent British thermal units, the Btu is used as the basis for comparing energy consumption associated with different resources. A kWh is a unit of electrical energy, and one kWh is equivalent to approximately 10,200 Btu, taking into account initial conversion losses (i.e., from one type of energy, such as chemical, to another type of energy, such as mechanical) and transmission losses. Natural gas consumption typically is described in terms of cubic feet or therms; 1 cubic foot of natural gas is equivalent to approximately 1,050 Btu, and 1 therm represents 100,000 Btu. One gallon of gasoline/diesel is equivalent to approximately 140,000 Btu, taking into account energy consumed in the refining process.

for roughly 60 percent of California's petroleum demand and 40 percent of the carbon dioxide emission fuel (CEC, 1999).

Petroleum

Most gasoline and diesel fuel sold in California for motor vehicles is refined in California to meet state-specific formulations required by the California Environmental Protection Agency's Air Resources Board. Major petroleum refineries in California are concentrated in three counties: Contra Costa County in northern California, Kern County in central California, and Los Angeles County in southern California. Valero, Tesoro, Phillips, Shell and Chevron operate refineries in Contra Costa County.

In 2002, refineries in California processed approximately 661 million barrels of crude oil (CEC, 2003b). Nearly one-half of the crude oil came from in-state oil production facilities; approximately one-fifth came from Alaska; and the remainder (approximately 30 percent) came from foreign sources. Together the refineries in the Bay Area have a crude oil processing capacity of 767,450 barrels per day. The long-term oil supply outlook for California indicates that in-state and Alaska supplies are declining, leading to increasing dependence on foreign oil sources.

Gasoline consumption for the nine Bay Area counties, during the last three years, is shown in Table 2.4-1. Caltrans estimates that 3.4 billion gallons of gasoline were consumed in the Bay Area during 2002 (excluding aviation fuel), which translates to about 9.4 million gallons each day. Over the three-year period, gasoline consumption in the Bay Area increased by one percent, with minor decreases in consumption in San Francisco and San Mateo counties. The remaining seven counties all increased one percent.

Caltrans estimates that over the next two decades, the Bay Area can expect a 36 percent increase in gasoline consumption and a 41 percent increase in the number of vehicle miles traveled. The California Energy Commission reported that 435.9 gallons of gasoline were used per capita in 2002, compared to a national average of 461.1 gallons per person (Caltrans, 2004).

Natural Gas

Four regions supply California with natural gas. Three of them—the Southwestern U.S., the Rocky Mountains, and Canada—supply 84 percent of all the natural gas consumed in California (CEC, 2000). The remainder of the natural gas is produced in California. In 2000, approximately one-third of all the natural gas consumed in California was used to generate electricity. Residential consumption represented one-fifth of California natural gas use with the balance consumed by the industrial, resource extraction, and commercial sectors.

PG&E is the primary natural gas provider for the San Francisco Bay Area. PG&E obtains its energy supplies from natural gas fields in northern California.

**Table 2.4-1: Gasoline Consumption in the San Francisco Bay Area
2000 to 2002, in 1,000 Gallons (excludes fuel for aviation use and diesel)**

County	2000	2001	2002	Change 2000-2002
Alameda	665,743	670,748	688,174	1.0%
Contra Costa	429,507	429,131	446,724	1.0%
Marin	132,634	131,394	133,873	1.0%
Napa	59,806	60,211	62,945	1.0%
San Francisco	392,878	405,009	391,153	-0.1%
San Mateo	406,305	406,291	403,870	-0.1%
Santa Clara	891,038	913,369	897,267	1.0%
Solano	169,114	170,896	181,609	1.1%
Sonoma	211,209	211,971	221,054	1.0%
Bay Area	3,358,234	2,399,020	3,426,669	1.0%

Source: California Department of Transportation, Office of Transportation Economics, Division of Transportation Planning, April 2004; Environmental Science Associates, 2004

Electricity

Power plants in California meet approximately 77 percent of the in-state electricity demand; hydroelectric power from the Pacific Northwest provides another 10 percent and power plants in the southwestern U.S. provide another 13 percent (CEC, 2003a). The contribution between in-state and out-of-state power plants depends upon, among other factors, the precipitation that occurred in the previous year and the corresponding amount of hydroelectric power that is available. In the Bay Area, Contra Costa County is home to one of the largest power plants in California: the Pittsburg Power Plant. It is the fourth largest power plant in California and consumes natural gas. Smaller power plants and cogeneration facilities are located throughout the Bay Area. PG&E is the primary electricity supplier to northern California.

Alternative Fuels

The U.S. Department of Transportation currently recognizes the following as alternative fuels: methanol and denatured ethanol (alcohol mixtures that contain no less than 70 percent of the alcohol fuel), natural gas (compressed or liquefied), liquefied petroleum gas, hydrogen, coal-derived liquid fuels, fuels derived from biological materials (i.e., biomass), and electricity. The liquid fuel referred to as Methanol (M85) consists of methanol and gasoline and is derived from natural gas, coal, or woody biomass. The liquid fuel referred to as Ethanol (E85) consists of ethanol and gasoline and is derived from corn, grains or agricultural waste. Natural gas consists of a high percentage of methane (generally above 85 percent), and varying amounts of ethane, propane, butane, and inerts (typically nitrogen, carbon dioxide, and helium) and comes from underground reserves. Liquefied petroleum gas (LPG) consists mostly of propane and is a byproduct of petroleum refining or natural gas processing. Current technologies for electric vehicles include lead acid and nickel metal hydride batteries.

Energy Use for Transportation

Transportation is the largest energy consumer in the state, accounting for 60 percent of total energy use (CEC, 1999). On-road vehicles are estimated to consume approximately 80 percent of California's transportation energy demand, with cars, trucks, and buses accounting for nearly all of the on-road fuel consumption.

On-road vehicles use about 90 percent of the distillate (petroleum) consumed in California. Caltrans estimates that in 2005 over 3.3 billion gallons of gasoline and diesel fuel will be consumed in the nine Bay Area counties, an increase of about 127 million gallons over 2000 consumption levels (Caltrans, 2003).

Long-term energy consumption trends for transportation will be largely determined by fuel efficiency trends for motor vehicles, as motor vehicles are the predominant transportation mode for passengers and commercial goods.

Energy Used By Public Transit

Public Transit energy consumption includes energy consumed for operation of public buses, electrified rail systems, and ferries. Energy factors for buses, BART, commuter rail, and ferries are provided in Table 2.4-2. The energy efficiency of each of these modes may vary according to operating conditions.

Table 2.4-2: Energy Factors of Transit Service

Service	Energy Factor (BTU/Vehicle Mile)
Commuter Rail - Diesel	466,667
Commuter Rail - Electric	102,000
Rail Rapid Transit	77,739
Diesel Multiple Unit	75,000
Bus	36,900
Ferry	32,634
Diesel Bus	19,858

Source: American Public Transit Association, 2003; Oak Ridge National Laboratory, 1996; The sources for Diesel Multiple Units is Colorado Railcar Company, LLC, 2003.

Energy used by Private and Commercial Vehicles

Commercial vehicles, generally composed of light, medium, and heavy trucks, are typically fueled by diesel or gasoline, and are part of the general fleet mix of vehicles present within the Bay Area transportation system. This energy analysis uses an average on-road vehicle fleet fuel economy of 18.26 miles per gallon in 2000, based on the 2003 California Motor Vehicle Stock, Travel and Fuel Forecast 2003 (Caltrans, 2003).

In the short-term, average fuel economy is expected to decrease due to the increase in light duty trucks as a fraction of the light duty vehicle fleet in California. Model year 2000 cars had the lowest recorded fuel economy ratings since 1980, largely due to buyer preferences for sport utility vehicles (21 percent of new car sales in the U.S.). Since 1981, improved engine performance has largely been offset by an increase in the average weight of cars and light duty trucks (10 percent and 16 percent, respectively).

The California Energy Commission projects that “fuel efficiency (by class) for gasoline light duty vehicles will decline slightly under model year 2007 or 2008, reflecting recent trends, and then begin to increase.” Light duty vehicles include automobiles, pickup trucks, vans, and sport utility vehicles (SUVs). The anticipated increase is due to the expected addition of hybrid-electric vehicles and the zero emission vehicle mandate, as well as the replacement of older and lower fuel efficiency vehicles over time (California Energy Commission, 2003).

Global Warming

Scientists and climatologists have cited evidence that the burning of fossil fuels by vehicles, power plants, industrial facilities, residences and commercial facilities have led to an increase of the earth’s temperature. While climate changes can result from many natural processes, it is argued that human activities may be accelerating the warming process. The concentration of greenhouse gases in the atmosphere changes the amount of heat that is radiated from the earth back into space. Greenhouse gases include carbon dioxide, methane, ozone, halocarbons and nitrous oxide.

Carbon dioxide is one of the most potent greenhouse gases, as it traps more heat in the atmosphere than other greenhouse gases, and, much of it tends to remain in the atmosphere for centuries (Scientific America, 1998). The United States has the highest per capita emissions of greenhouse gases of any country in the world. Transportation accounts for about 40 percent of the carbon dioxide (the primary pollutant responsible for global warming) produced in California (CEC, 1999). That figure far outpaces the national average of 33 percent (BTS, 2002).

REGULATORY SETTING

Federal and state agencies regulate energy consumption through various policies, standards, and programs. At the local level, individual cities and counties regulate energy through their regulatory and planning activities.

Federal Regulations

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the California Energy Commission. The Act established a State policy to reduce wasteful, uneconomical and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission regulates privately-owned utilities in the energy, rail, telecommunications, and water fields.

A CEQA amendment requires projects subject to EIRs to include a discussion of the potential energy impacts of proposed projects in the EIR, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (CELSOC, 2002).

The Energy Policy and Conservation Act (EPCA) of 1975 established nationwide fuel economy standards in order to conserve oil. Pursuant to this Act, the National Highway Traffic and Safety Administration, part of the U.S. Department of Transportation, is responsible for revising existing fuel economy standards and establishing new vehicle fuel economy standards.

The Corporate Average Fuel Economy (CAFE) program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Compliance with CAFE standards is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. The U.S. EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. The CAFE values are a weighted harmonic average of the EPA city and highway fuel economy test results. Based on information generated under the CAFE program, the U.S. Department of Transportation is authorized to assess penalties for noncompliance.

CAFE rules require the average fuel economy of all vehicles of a given class that a manufacturer sells in each model year to be equal of greater than the standard. The current CAFE standard for passenger cars is 27.5 miles per gallon and 20.7 miles per gallon for light trucks (gross vehicle weight of 8,500 pounds or less). Heavy-duty vehicles (i.e. gross vehicle weight over 8,500 pounds) are not currently subject to fuel economy standards. The EPCA was reauthorized in 2000 (49 CFR 533).

State Regulations

State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The current plan is the 1997 California Energy Plan (CEC, 1997). The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs; and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

California Environmental Quality Act (CEQA)

Appendix F of the CEQA Guidelines describes the types of information and analyses related to energy conservation that are to be included in Environmental Impact Reports (EIRs). In Appendix F of the CEQA Guidelines, energy conservation is described in terms of decreased per capita energy consumption, decreased reliance on natural gas and oil, and increased reliance on

renewable energy sources. To assure that energy implications are considered in project decisions, EIRs must include a discussion of the potentially significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

This EIR uses the following criterion to assess impacts on energy consumption:

- **Criterion 1: Five percent or greater increase in energy consumption.** Implementation of transportation improvements in the proposed Transportation 2030 Plan would have a potentially significant impact if it results in a 5 percent or greater increase in energy consumption compared to the No Project alternative.

METHOD OF ANALYSIS

Energy consumption includes energy required for operation of the transportation system (private vehicles and public transit) as well as energy used for construction and maintenance of the transportation system. The analysis assumes that the proposed Transportation 2030 Plan is implemented in full in the year 2030. The analysis assesses cumulative impacts; it assumes the implementation of the proposed Transportation 2030 Plan as well as the development of all forecast land use changes. As a result, the EIR evaluates both the changes in vehicle miles traveled (VMT) that the proposed Transportation 2030 Plan would lead to as well as the additional travel in the regional transportation system generated by planned land uses. This analysis is based on output from MTC's travel demand model.

Direct Energy Consumption

Direct energy is that energy used in the daily operation of the transportation system, including the propulsion of on-road vehicles and transit vehicles under varying conditions. In assessing the direct energy impact, consideration was given to the following factors: fleet mix; annual VMT; and variation of fuel consumption rates over time and by vehicle type.

The direct energy analysis for the Proposed Project is based on project year 2030 VMT compared to estimates for both existing conditions (2000) and the No Project alternative. This analysis compares the estimated gasoline/diesel consumption of vehicles on the regional roadway network (i.e., the portion of the network included in the travel demand model) that would result under implementation of the proposed Transportation 2030 Plan to estimates for the 2000 base year. This difference would be the relative impact of the proposed Transportation 2030 Plan on vehicular energy used in the region. Modal output data used in the direct energy calculations and the results for auto energy use are shown in Table 2.4-3.

Table 2.4-3: Direct Energy Data

	VMT	Speed (mph)	Adjusted Fuel Economy (mpg)	Btu/Mile	Auto Energy Use (Btus)
2000	13,128,555	38.10	34.42	4076.4	53.4
2030 No Project	17,868,053	34.62	32.42	4318.3	77.16
2030 Project	17,772,807	37.24	34.86	4016.1	71.38

Source: Metropolitan Transportation Commission 2004, Environmental Science Associates, 2004

Effect of Speed on Fuel Efficiency

It is known that vehicle travel at speeds different from the most fuel-efficient speed can lead to dramatic increases in fuel consumption. While a precise relation for the entire fleet of vehicles is not known, the effect of a reduction of average speed in the region can be estimated. The estimated average speed on regional Bay Area roadways in 2030 without the project is 34.62 miles per hour. The average fleet fuel economy is estimated to be 34.42 miles per gallon.

Estimates of the difference in energy consumption at different average speeds in the future scenarios are based on data in the *Transportation Energy Data Book: Edition 23* (Oak Ridge National Laboratory, 2003). According to this data, vehicle speeds from approximately 30 miles per hour to approximately 35 miles per hour would result in operating to their full fuel economy potential. The forecast average speed under the Proposed Project is 37.24 miles per hour on regional roadways. The estimated fuel economy associated with this speed is 34.86 miles per gallon. This analysis does not assume increases in fleet fuel economy due to changes in technology, as the effects on the average fuel economy of the 2030 vehicle fleet remains uncertain. This analysis also does not account for possible changes between alternatives in vehicle trips or mode due to changes in average speed. Future environmental analysis associated with projects in the proposed Transportation 2030 Plan could take speed changes, stops and slow-downs, terrain and other factors into account when determining energy consumption for different alternatives.

Indirect Energy Consumption

Indirect energy is the energy required to construct, operate, and maintain the transportation network, as well as to manufacture and maintain on-road vehicles and transit vehicles. Indirect energy consumption also includes changes in energy demand due to a project, such as changes in trip origins and destinations or travel modes. Indirect energy consumption due to production of fuel and transportation/transmission to the end users is not included in this analysis, as any such analysis would be speculative.²

Because many of the projects included in the proposed Transportation 2030 Plan are at conceptual planning stages, no detailed quantitative assessment of construction and maintenance impacts is possible. Instead, a rough estimate of the energy that would be consumed for

² The Annual Report on Transportation Statistics, published by the Bureau of Transportation Statistics of the U.S. Department of Transportation only includes end user energy consumption by transportation mode, with no information available on manufacturing transportation fuels or different types of transportation equipment.

construction and maintenance proposed under the Transportation 2030 Plan can be made by applying the Input-Output methodology developed by Caltrans (1983). The Input-Output method converts VMT, lanes-miles or construction dollars into energy consumption based on existing data of other transportation projects in the U.S. Table 2.4-4 shows the indirect energy consumption factors used in this analysis.

Table 2.4-4: Indirect Energy Consumption Factors

<i>Mode</i>	<i>Factor</i>
Construction	
Automobiles and Trucks (manufacturing)	1,410 BTUs/vehicle Miles
Bus (manufacturing)	3,470 BTUs/Vehicle Miles
Roadway (construction)	27,300 BTUs/1977\$
Rail (construction)	2,108 BTUs/Mile
Tunnel (construction)	46,228 BTUs/Mile
Maintenance	
Automobiles and Trucks	1,400 BTUs/Vehicle Mile
Bus	13,142 BTUs/Vehicle Mile
Roadway	1.71x108 BTUs/Vehicle Mile/Year
Rail	7,060 BTUs/Vehicle Mile

¹BTU: British Thermal Units

²2004 dollars converted to 1977 dollars and 1982 dollars

³Estimated to be ten times the energy impact of road construction.

Source: Caltrans, 1983

SUMMARY OF IMPACTS

Direct and Indirect Energy

Both the Proposed Project and No Project alternative would result in higher daily energy consumption relative to existing conditions (2000). The Proposed Project's daily energy consumption for direct energy would be roughly 39.6 percent higher than existing energy use. The Proposed Project's energy use would be 13.7 percent higher than the estimated 2030 No Project direct energy consumption. This increase is attributed to higher transit use in the Proposed Project, which requires more energy for some modes of travel (e.g., ferries and commuter rail).

There would be indirect energy impacts from the consumption of energy for construction, manufacturing, and maintenance purposes under the Proposed Project. The indirect average daily energy consumption would be 69 percent more than existing conditions. Existing conditions uses less indirect energy then the Proposed Project because of the lack of large scale construction projects. The Proposed Project indirect energy consumption would be 31.4 percent higher than the No Project alternative indirect energy consumption. The increase can be attributed to the construction of large transportation projects under the Proposed Project.

With respect to total transportation-related energy use, the Project is estimated to use 169.02 Btus on a daily basis- a 18.2 percent increase over the No Project estimates of 143.04. Under existing conditions transportation energy use is estimated at 115.13 Btus on a daily bases- 46.8 percent less than the Project.

Global Warming and CO2 Emissions

The greenhouse gas carbon dioxide, which contributes to global warming, is largely produced by transportation related sources. As shown in Table 2.4-5, under existing conditions carbon dioxide emissions are calculated to be 542.73 tons per day. The Proposed Project is expected to increase the output by over 22 percent to 698.68 tons per day. However, the No Project alternative is projected to generate 3 percent more carbon dioxide emissions than the Proposed Project, so the impact of the Proposed Project is not considered significant. It would improve conditions relative to the No Project alternative.

Table 2.4-5: Carbon Dioxide Emissions

Scenario	Estimated Output	Change from 2000		Change from 2030 No Project	
		Numerical	Percent	Numerical	Percent
2000	542.73	-	-	-178.78	-25%
2030 No Project	721.51	178.78	25%	-	-
2030 Project	698.68	155.95	22%	-22.83	-3%

Source: MTC Model Outputs 2004

IMPACTS & MITIGATION

Impact

2.4-1 The implementation of the Proposed Project is likely to substantially increase the consumption of direct and indirect energy types. (*Significant unavoidable*)

Under existing conditions, daily direct transportation energy usage is 87.20 billion Btus. As shown in Table 2.4-6, daily energy consumption for direct energy usage under the Proposed Project would be approximately 121.72 billion Btus. This is an 13.7 percent increase from the estimated 2030 No Project direct energy consumption, and roughly 39.6 percent more energy than existing conditions.

The average speed in the regional network would be slightly lower than in 2000 but higher than the No Project alternative condition. This change in average speed would result in a minor change in average fuel economy and a decrease in transportation energy consumption compared to the No Project alternative.

As shown in Table 2.4-6, energy consumption for construction, manufacturing, and maintenance purposes under the Proposed Project would be approximately 47.30 billion Btus on an average

daily basis through 2030. This is a 69 percent increase over existing conditions and a 31.4 percent increase over the estimated No Project alternative indirect energy consumption.

The Proposed Project would result in a 18.2 percent increase in overall transportation energy consumption compared to the No Project alternative; this is a significant adverse impact. The Proposed Project total energy consumption per capita would be 13.4 percent higher than existing conditions.

Mitigation Measures

Mitigation of these impacts is largely beyond the authority of MTC. The most significant mitigation measure would be adoption and implementation of more rigorous Corporate Average Fuel Economy standards for passenger cars and light trucks. In light of this, the following mitigation measures are recommended.

Table 2.4-6: Estimated Daily Direct and Indirect Energy Consumption (in Billion Btus)

	2000	2030 No Project	2030 Project	Change 2000 to 2030 Project		Change 2030 No Project to 2030 Project	
				Numerical	Percent	Numerical	Percent
Direct Energy							
On-Road vehicles	53.40	77.16	71.38	17.98	33.7%	-5.78	-0.1%
Transit vehicles	33.81	29.88	50.34	16.53	40.9%	20.46	59.4%
Direct Energy Total	87.20	107.04	121.72	34.52	39.6%	14.68	13.7%
Indirect Energy							
Manufacturing and Maintenance	27.93	34.90	35.18	7.25	26.0%	0.28	0.1%
Construction	-	1.10	12.12	12.12	100%	11.02	1,100%
Indirect Energy Total	27.93	36.00	47.30	19.37	69.4%	11.30	31.4%
Total Daily Energy	115.13	143.04	169.02	53.89	46.8%	25.98	18.2%
Per Capita Daily Energy Usage (Btus)	16,972	16,291	19,250	2,278	13.4%	2,959	18.2%

Btu: British Thermal Units

Source: Environmental Science Associates 2004, Metropolitan Transportation Commission, 2004

2.4(a) Project implementation agencies shall undertake project specific review of energy impacts as part of project specific environmental review. For any identified impacts, appropriate mitigation measures shall be identified. The project implementation agencies or local jurisdictions shall be responsible for ensuring adherence to the mitigation measures. MTC shall be provided with documentation of compliance with mitigation measures.

2.4(b) Project implementation agencies shall require projects, that are part of the proposed Transportation 2030 Plan, that require construction, to evaluate the energy demand so that suggestions could be made requiring the least energy-intensive methods of construction. To reduce energy expended, the construction contractor could implement the following mitigation measures:

- Minimize the number of transportation trips that take materials to and from construction sites;
- Do not needlessly run construction equipment engines;
- Require that all construction engines be properly tuned;
- Encourage ridesharing by construction personnel traveling to and from construction sites; and
- Plan construction activities to minimize the use of all on-site construction equipment.

These mitigation measures are not expected to reduce this potentially significant adverse impact to a less-than-significant level.

2.5 Noise

In most of the Bay Area, transportation—motor vehicles, transit systems, railroads, aircraft and boats—is the primary source of environmental noise. Automobile and truck traffic is the most prevalent noise source throughout the region's urban communities. Noise can have real effects on human health, including hearing loss and the psychological effects or irritability from lack of sleep. This chapter outlines how noise is described, measured, and regulated. It also describes the sources of transportation noise in the Bay Area and evaluates the potential effect of transportation improvements in the proposed Transportation 2030 Plan on noise levels within the region.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

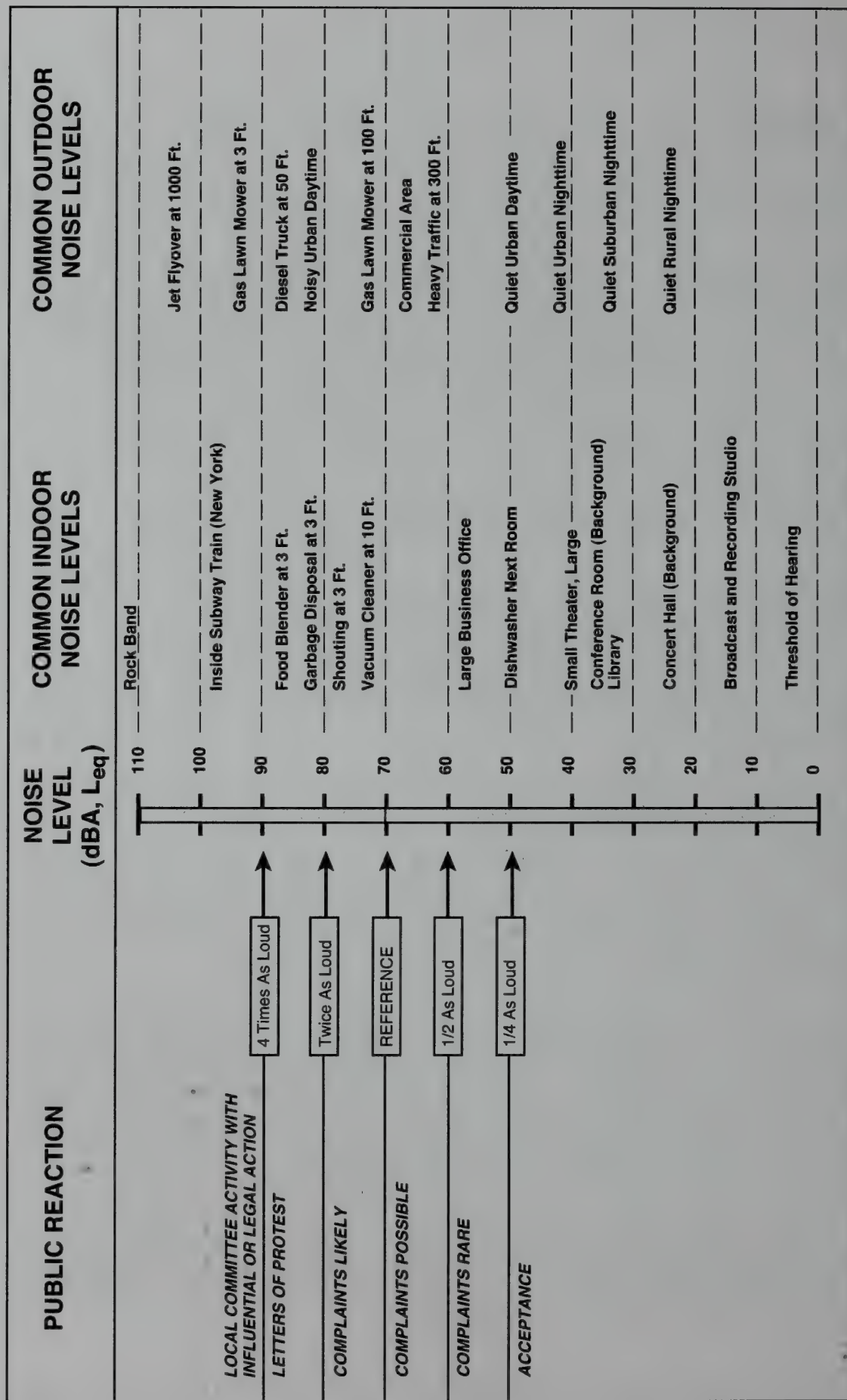
Noise Descriptors

Sound waves, traveling outward from a source, exert a sound pressure level (commonly called "sound level"), measured in decibels (dB). In general, people can perceive a two- to three-dB difference in noise levels; a five-dB difference in noise levels is readily perceptible; a difference of 10 dB is perceived as a doubling of loudness. "Noise" is often defined as unwanted sound. Environmental noise is usually measured in A-weighted decibels, which is a metric corrected for the variation in frequency response of the human ear. The A-weighted scale is used to describe all noise levels discussed in this section.

Environmental noise levels typically fluctuate over time; different types of noise descriptors are used to account for this variability. Some descriptors characterize cumulative noise over a given period, while others describe single noise events. Cumulative noise descriptors include the energy-equivalent noise level (L_{eq}), Day-Night Average Noise Level (DNL), and Community Noise Equivalent Level (CNEL). The L_{eq} is the actual time-averaged, equivalent steady-state sound level, which, in a stated period, contains the same acoustic energy as the time-varying sound level during the same period. Some representative noise sources and their corresponding A-weighted noise levels are shown in Figure 2.5-1.

DNL and CNEL values result from the averaging of L_{eq} values (based on A-weighted decibels) over a 24-hour period, with weighting factors applied to different periods of the day to account for their greater relative annoyance. For DNL, noise that occurs during the nighttime period (10:00 p.m. to 7:00 a.m.) is penalized by 10 dBA. The CNEL descriptor is similar to DNL, except that it also includes a penalty of approximately 5 dBA for noise that occurs during the evening period (7:00 p.m. to 10:00 p.m.). Cumulative noise descriptors, DNL and CNEL, are well correlated with the likelihood of public annoyance from transportation noise sources.

Individual noise events, such as train passbys, are further described using single-event and cumulative noise descriptors. For single events, the maximum measured noise level (L_{max}) is often cited, as is the Sound Exposure Level (SEL). The SEL is the energy-based sum of a given-duration noise event squeezed into a reference duration of one second.



Source: Caltrans Transportation Laboratory Noise Manual, 1982; and
Modification by Environmental Science Associates, 2001.

Figure 2.5-1
Noise Effects on People

Sound Propagation and Attenuation

Sound level naturally decreases as one moves further away from the source. This basic attenuation rate is referred to as the *geometric spreading loss*. The basic rate of geometric spreading loss depends on whether a given noise source can be characterized as a point source or a line source.

For a point source, such as an idling truck or jackhammer, the noise level decreases by about 6.0 dBA for each doubling of distance away from the source. In many cases, noise attenuation from a point source increases by 1.5 dBA from 6.0 dBA to 7.5 dBA for each doubling of distance due to ground absorption and reflective wave canceling. These factors are collectively referred to as *excess ground attenuation*. The basic geometric spreading loss rate is used where the ground surface between a noise source and a receiver is reflective, such as parking lots or a smooth body of water. The excess ground attenuation rate (7.5 dBA per doubling of distance) is used where the ground surface is absorptive, such as soft dirt, grass, or scattered bushes and trees.

For a line source, such as a heavily traveled roadway, the noise level decreases by a nominal value of 3.0 dBA for each doubling of distance between the source and the receiver. If the ground surface between source and receiver is absorptive rather than reflective, the nominal rate increases by 1.5 dBA to 4.5 dBA for each doubling of distance. Atmospheric effects, such as wind and temperature gradients, can also influence noise attenuation rates from both line and point sources of noise. However, unlike ground attenuation, atmospheric effects are constantly changing and difficult to predict.

Trees and vegetation, buildings, and barriers reduce the noise level that would otherwise occur at a given receptor distance. However, for a vegetative strip to have a noticeable effect on noise levels, it must be dense and wide. For example, a stand of trees must be at least 100 feet wide and dense enough to completely obstruct a visual path to the roadway to attenuate traffic noise by 5 dBA.¹ A row of structures can shield more distant receivers depending upon the size and spacing of the intervening structures and site geometry. Generally, for an at-grade highway in an average residential area where the first row of houses cover at least 40 percent of the total area, the reduction provided by the first row of houses is approximately 3 dBA, and 1.5 dBA for each additional row.² Similar to vegetative strips discussed above, noise barriers, which include natural topography and soundwalls, reduce noise by blocking the line of sight between the source and receiver. Generally, a noise barrier that breaks the line of sight between source and receiver will provide at least a 5-dBA reduction in noise.

¹ California Department of Transportation (Caltrans), *Technical Noise Supplement, A Technical Supplement to the Traffic Noise Analysis Protocol*, October 1998.

² Ibid.

Effects of Noise

Human reaction to noise ranges from annoyance, to interference with various activities, to hearing loss and stress-related health problems. These effects of noise are discussed below:

- **Potential hearing loss** is commonly associated with occupational exposures in heavy industry or very noisy work environments. Noise levels in neighborhoods, even near very noisy airports, are not sufficiently loud to cause hearing loss.
- **Speech interference** is one of the primary concerns associated with environmental noise. Normal conversational speech is in the range of 60 to 65 dBA and any noise in this range or louder may interfere with speech. Depending upon the distance between the talker and the listener, background noise levels may require a raised voice in order to communicate. Transportation sources can easily interfere with conversation within a few hundred feet of the source.
- **Sleep interference** is a major noise concern related to traffic-generated noise. Sleep disturbance studies have identified interior noise levels attributed to traffic noise as a key factor of sleep disturbance. However, it should be noted that sleep disturbance does not necessarily mean awakening from sleep, but can refer to altering the pattern and stages of sleep. Train noise (especially horn soundings) is a major source of complaints.
- **Physiological responses** are those measurable noise effects on the human metabolism. They are ascertained as changes in pulse rate, blood pressure, etc. While such effects can be induced and observed, the extent to which these physiological responses cause harm or are a sign of harm is not known.
- **Annoyance** is the most difficult of all noise responses to describe. Annoyance is a very individual characteristic and can vary widely from person to person. What one person considers tolerable can be quite unbearable to another of equal hearing capability. (For instance, some people like the sound of trains, while others do not.)

Sensitive Receptors

People in residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, natural areas, parks and outdoor recreation areas are generally more sensitive to noise than are people at commercial and industrial establishments. Consequently, the noise standards for sensitive land uses are more stringent than for those at less sensitive uses. Sensitive receptors of all types are located within the Transportation 2030 Plan travel corridors.

To protect various human activities in sensitive areas (e.g., residences, schools, and hospitals), lower noise levels are generally required. For example, a maximum outdoor noise level of 55 to 60 DNL is necessary for intelligible speech communication inside a typical home. Social surveys and case studies have shown that complaints and community annoyance in residential areas begin to occur when outdoor noise reaches 55 DNL.³ Sporadic complaints associated with the 55 to 60 DNL range give rise to widespread complaints and sometimes individual threats of legal action

³ U.S. Environmental Protection Agency, *Noise Effects Handbook*, July 1981.

within the 60 to 70 DNL range. At 70 DNL and above, residential community reaction typically involves threats of legal action and strong appeals to local officials to stop the noise.

Existing Noise Sources

Principal Bay Area noise sources are airports, freeways, arterial roadways, port facilities, and railroads. Additional noise generators include industrial manufacturing plants and construction sites. Local collector streets are not considered to be a significant source of noise since traffic volume and speed are generally much lower than for freeways and arterial roadways.

Airports

The Bay Area airport system consists of a total of 47 airport facilities, including 4 commercial service airports, 22 general aviation airports, 3 military airports, 2 special use airports and 16 private use airports. Airport operation, particularly the large commercial service airports play a significant role in the noise environment of many Bay Area communities. Bay Area airport system development is addressed regionally in the *Regional Airport System Plan* (RASP) and locally in individual airport master plans. The airport master plans address community noise issues near airports.

Freeways and Arterial Roadways

Vehicle traffic background noise levels vary throughout the day based on the average density of noise sources in a given area. Traffic noise at a particular location depends upon the traffic volume on the roadway, the average vehicle speed, distance between the receptor and the roadway, the presence of intervening barriers between source and receiver, and the ratio of trucks (particularly heavy trucks) and buses to automobiles.

A number of factors control how traffic noise levels affect nearby sensitive land uses. These factors include: roadway elevation compared to grade; structures or terrain intervening between the roadway and the sensitive receptors; and the distance between the roadway and receptors. For example, measurements show that depressing a freeway by approximately 12 feet yields a reduction in traffic noise relative to an at-grade freeway of 7 to 10 dBA at all distances from the freeway.⁴ Traffic noise from an elevated freeway is typically 2 to 10 dBA lower than an equivalent at-grade facility within 300 feet of the freeway. However, beyond 300 feet, the noise radiated by an elevated and at-grade freeway (assuming equal traffic volumes, truck mix, and vehicle speed) is the same.⁵ Caltrans or other sponsors of freeway projects conduct detailed noise studies for their environmental documents when these projects are ready for implementation.

⁴ Beranek, Leo L., *Noise and Vibration Control*, 1988.

⁵ Ibid.

The Bay Area has an enormous number of arterial roadways. Typical arterial roadways have one or two lanes of traffic in each direction, with some containing as many as four lanes in each direction. Noise from these sources can be a significant environmental concern where buffers (e.g., buildings, landscaping, etc.) are inadequate or where the distance from centerline to sensitive uses is relatively small. Given typical daily traffic volumes of 10,000 to 40,000, noise levels along arterial roadways typically range from DNL 65 to 70 dBA at a distance of 50 feet from the roadway centerlines. In some cases, traffic noise is so pervasive that it can depress property values for residential uses. Project sponsors for new or widened arterials conduct detailed noise analyses for these projects as part of their environmental documents when these projects are ready for implementation.

Railroad Operations

The two basic types of railroad operations are freight trains and passenger rail operations, the latter consisting of commuter and intercity passenger trains and steel-wheel urban rail transit. Generally, freight operations occur at all hours of the day and night, while passenger rail operations are concentrated within the daytime and evening periods.

Trains can generate high, relatively brief, intermittent noise events. Train noise is an environmental concern for sensitive uses located along rail lines and in the vicinities of switching yards. Locomotive engines and the interaction of steel wheels and rails generate primary rail noise. The latter source creates three types of noise: 1) rolling noise due to continuous rolling contact; 2) impact noise when a wheel encounters a rail joint, turnout or crossover; and 3) squeal generated by friction on tight curves. For very high-speed rail vehicles, air turbulence can be a significant source of noise.⁶

Train air horns and crossing bell gates contribute to loud noise levels near grade crossings. Table 2.5-1 provides reference noise levels in terms of Sound Exposure Levels (SEL) for different types of rail operations.

Freight Trains

Freight trains are a source of environmental noise at many locations in the Bay Area. Freight train noise consists of locomotive engine sound and rail car wheel-rail interaction. In addition to noise, freight trains also generate substantial ground-borne noise and vibration near the tracks. Ground-borne noise and vibration is a function of quality of the track and the operating speed of the vehicles. (Improvements to private railroad rights of way are not part of the proposed Transportation 2030 Plan).

⁶ U.S. Department of Transportation, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, April 1995.

Table 2.5-1: Reference Noise Levels for Various Rail Operations

Source/Type		Reference Conditions	Reference Noise Level (SEL) ¹
Commuter Rail, At-Grade	Locomotives	Diesel-Electric, 3,000 horsepower, throttle 5	92
		Electric	90
	Cars	Ballast, welded rail	82
Rail Transit		At-grade, ballast, welded rail	82
Automated Guideway Transit	Steel wheel	Aerial, concrete, welded rail	80
	Rubber tire	Aerial, concrete guideway	78
Monorail		Aerial straddle beam	82
Maglev		Aerial, open guideway	72

¹ Measured at 50 feet from track centerline with trains operating at 50 miles per hour. For the sake of comparison, an automobile passby event generates an SEL of approximately 73 dBA, and a city bus generates an SEL of approximately 84 dBA.

Source: U.S. Department of Transportation, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, April 1995

Commuter and Intercity Passenger Trains

In the Bay Area, there are four commuter and intercity passenger train operators: Caltrain, Capitol Corridor, ACE, and AMTRAK. Passenger trains can be powered by diesel or electric locomotives, with the electric motors being comparatively quiet. Noise from local and regional passenger trains is primarily from diesel engines and train whistles.

Heavy and Light Rail Transit

Heavy rail is generally defined as electrified rapid transit trains with dedicated guideway, and light rail as electrified transit trains that do not require dedicated guideway. In general, noise increases with speed and train length, and is most problematic within 50 feet of the track. BART trains, operating at- or above-grade, typically generate noise levels of about 70 DNL at a distance of 100 feet from the tracks. The DNL drops to about 60 dBA at a distance of 400 feet.

Light rail noise levels vary, depending upon vehicle speed, number of cars per train, and whether the trains operate on embedded or tie-and-ballast trackway. The distance to the 60 DNL contour for light rail is typically 100 to 150 feet from the tracks.

Construction Noise Sources

Construction can be another significant, although typically short-term, source of noise. Construction is most significant when it takes place near sensitive land uses and occurs at night or in early morning hours. As discussed above, local governments typically regulate noise associated with construction equipment and activities through enforcement of noise ordinance standards, implementation of general plan policies, and imposition of conditions of approval for building or grading permits. Table 2.5-2 shows typical exterior noise levels at various phases of commercial construction, and Table 2.5-3 shows typical noise levels associated with various types of construction related machinery.

Table 2.5-2: Typical Construction Phase Noise Levels

Construction Phase	Noise Level (dBA, L_{eq}) ¹
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

¹ Average noise levels 50 feet from the noisiest source and 200 feet from the rest of the equipment associated with a given construction phase. Noise levels correspond to commercial projects in a typical urban ambient noise environment.

Source: Bolt, Beranek and Newman, U.S. EPA, *Noise From Construction Equipment and Operations, Building Equipment, and Home Appliances*, 1971

The dominant construction equipment noise source is usually a diesel engine, without sufficient muffling. In a few cases however, such as impact pile driving or pavement breaking, process noise dominates. Stationary equipment operates in one location for one or more days at a time, with either a fixed-power operation (pumps, generators, compressors) or a variable noise operation (pile drivers, pavement breakers). Mobile equipment moves around the construction site with power applied in cyclic fashion (bulldozers, loaders), or to and from the site (trucks). Construction-related noise levels generally fluctuate depending on the construction phase, equipment type and duration of use, distance between noise source and receptor, and presence or absence of barriers between noise source and receptor.

REGULATORY SETTING

Federal, state and local agencies regulate different aspects of environmental noise. Generally, the federal government sets noise standards for transportation-related noise sources closely linked to interstate commerce. These include aircraft, locomotives, and trucks. The state government sets noise standards for those transportation noise sources such as automobiles, light trucks, and motorcycles. Noise sources associated with industrial, commercial, and construction activities are generally subject to local control through noise ordinances and general plan policies. Local general plans identify general principles intended to guide and influence development plans, and noise ordinances set forth the specific standards and procedures for addressing particular noise sources and activities.

Federal Regulations

Federal regulations for railroad noise are contained in 40 CFR, Part 201 and 49 CFR, Part 210. Noise limits are implemented through regulatory controls on locomotive manufacturers. For locomotives manufactured during or after 1980, noise limits are as follows:

- Stationary locomotives (at idle throttle setting) are not to exceed 70 dBA at 15 meters (approximately 50 feet) from the track pathway centerline;
- Stationary locomotives (at all other throttle settings) are not to exceed 87 dBA at 15 meters; and
- Moving locomotives are not to exceed 90 dBA at 15 meters.

Table 2.5-3: Typical Noise Levels from Construction Equipment

Construction Equipment	Noise Levels (dBA at 50 feet)	
	Without Noise Control	With Feasible Noise Control ¹
Earthmoving		
Front Loaders	79	75
Backhoes	85	75
Dozers	80	75
Tractors	80	75
Scrapers	88	80
Graders	85	75
Trucks	91	75
Pavers	89	80
Materials Handling		
Concrete Mixers	85	75
Concrete Pumps	82	75
Cranes	83	75
Derricks	88	75
Stationary		
Pumps	76	75
Generators	78	75
Compressors	81	75
Impact		
Pile Driver	101	95
Jack Hammers	88	75
Rock Drills	98	80
Pneumatic Tools	86	80
Other:		
Saws	78	75
Vibrators	76	75

¹ Feasible noise controls represent estimates obtained by using quieter procedures or equipment and noise control features that would require no major design or extreme cost. Quieted equipment can be designed with enclosures, mufflers, or noise-reduction features.

Source: Bolt, Beranek and Newman, U.S. EPA, *Noise From Construction Equipment and Operations, Building Equipment, and Home Appliances*, 1971

Sounding locomotive horns or whistles in advance of highway-rail grade crossings has been used as a safety precaution by railroads since the late 1880s. The manner in which horns have been sounded (two longs, one short and one long) was standardized in 1938. In response to a growing national trend towards restrictions on the use of locomotive horns under local ordinances and a related increase in collisions, Congress passed the Swift Rail Development Act, which directed the Federal Railroad Administration to develop rules addressing this issue. On December 18, 2003, the Federal Railroad Administration published an Interim Final Rule that requires the use of locomotive horns or whistles when approaching road/rail grade crossing, except in approved quiet zones, where supplementary safety measures have been installed or adopted by the state or locality. The rule establishes that a horn sound level must be a minimum of 96 dBA and no louder than 110 dBA measured 100 feet in front of the locomotive and 15 feet above the rail. The rule is effective on December 18, 2004.⁷

The Federal truck passby noise standard is 80 dBA at 15 meters from the vehicle pathway centerline (trucks more than 4.5 tons, gross vehicle weight rating, under 40 CFR, Part 205, Subpart B). This standard is implemented through regulatory controls on truck manufacturers. Under regulations established by the Federal Highway Administration, noise abatement must be considered for federal or federally-funded projects involving the construction of a new highway or significant modification of an existing freeway. Abatement is considered when the project would result in a substantial noise increase or when the predicted noise levels approach or exceed the Noise Abatement Criteria (23 CFR Part 772). Under these criteria, a *substantial increase* is defined as a 12 dBA increase in the L_{eq} during the traffic peak hour. The Noise Abatement Criteria differ among various activity categories and between exterior spaces and interior spaces. For sensitive uses, such as residences, schools, churches, parks, and playgrounds, the Noise Abatement Criteria for interior and exterior spaces during the traffic peak hour is 52 and 67 L_{eq} , respectively.

State Regulations

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the passby standard is consistent with the federal limit of 80 dBA. The State passby standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters from the centerline.⁸ These controls are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials. Caltrans uses FHWA Noise Abatement Criteria to evaluate noise impacts.

The State of California has also established noise insulation standards for new multi-family residential units; hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards and are found in *California Code of Regulations*, Title 24. These standards set forth an interior standard of 45 DNL in any habitable room. It requires an acoustical analysis demonstrating building design to meet this interior standard where the project site is subject to

⁷ Federal Railroad Administration, *Federal Register*, December 18, 2003.

⁸ California Vehicle Code, §23130 and 23130.5; 27150, *et seq.*; 27204 and 27206.

noise levels greater than 60 DNL. Title 24 standards are typically enforced by local jurisdictions through the building permit process.

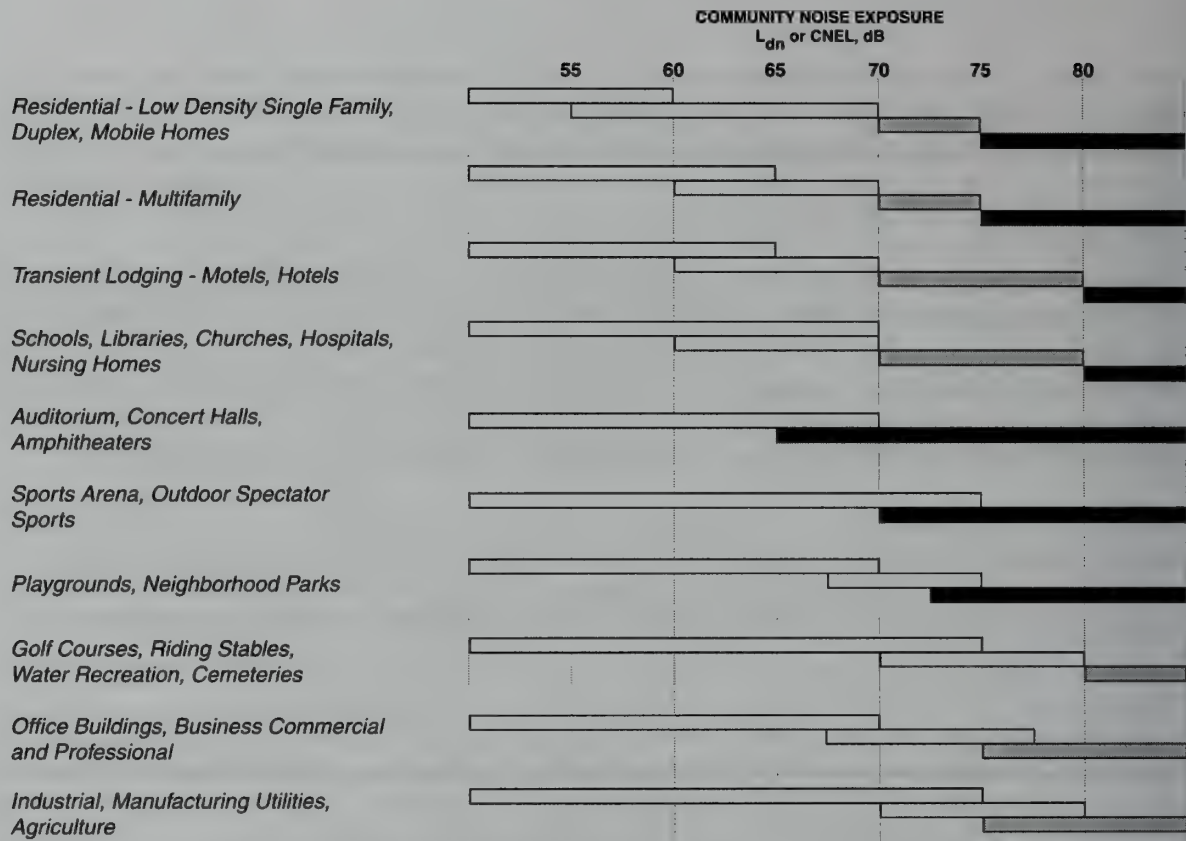
Local Regulations

To identify, appraise, and remedy noise problems in the local community, each county and city in the Bay Area is required to adopt a Noise Element as part of its General Plan. Each Noise Element is required to analyze and quantify, to the extent practicable, current and projected noise levels associated with local noise sources. These sources include, but are not limited to, highways and freeways, primary arterials and major local streets, rail operations, air traffic, local industrial plants, and other stationary sources that contribute to the community noise environment.

Beyond statutory requirements, local jurisdictions are free to adopt their own goals and policies in their Noise Elements. However, most jurisdictions have chosen to adopt noise/land use compatibility policies derived from State recommendations. For instance, most jurisdictions have adopted noise/land use compatibility guidelines that are similar to those recommended by the State (see Figure 2.5-2).

For residential uses, outdoor noise levels of less than 60 DNL or less are considered "normally acceptable"; outdoor noise levels between 60 and 70 DNL are "conditionally acceptable"; and outdoor noise levels exceeding 70 DNL are "normally unacceptable." Under State guidelines, new schools, libraries, churches, hospitals, and nursing homes that are proposed in areas subject to DNL 60 to 70 dBA should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. For many land uses, the State recommendations show overlapping DNL ranges for two or more compatibility categories. These overlapping DNL ranges indicate that local conditions (existing noise levels and community attitudes toward dominant noise sources) should be considered in evaluating land use compatibility at specific locations.

In addition to regulating noise through implementation of noise element policies, local jurisdictions regulate noise through enforcement of local ordinance standards. These standards generally relate to noisy activities (e.g., use of loudspeakers and construction) and stationary noise sources and facilities (e.g., air conditioning units and industrial activities). Generally, federal and state laws preempt local agencies from establishing noise standards for transportation-related noise sources, such as aircraft, ships, trains, and motor vehicles.



LEGEND:

NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements.

NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

This EIR uses the following criteria to assess whether the transportation improvements in the proposed Transportation 2030 Plan will have a significant adverse effect on the community noise environment:

- **Criterion 1: Construction.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if the construction of transportation projects results in exposure of persons to or generation of noise levels in excess of standards established in the applicable local general plan or noise ordinance standards.
- **Criterion 2: Freeways and Other Roadways.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if it results in noise levels that approach or exceed the FHWA Noise Abatement Criteria or increase substantially above existing levels (a 3 dBA change would be considered noticeable and significant for the purposes of this EIR).
- **Criterion 3: Rail Transit.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if it results in noise levels that increase by more than the allowable noise exposure permitted under the Federal Transit Administration (FTA) criteria, as shown in Table 2.5-4, below.

Table 2.5-4: Rail Transit Noise Impact Criteria: Effect on Cumulative Noise Exposure

<i>DNL or Leq in dBA (rounded to nearest whole decibel)</i>			
<i>Existing Noise Exposure</i>	<i>Allowable Project Noise Exposure</i>	<i>Allowable Combined Total Noise Exposure</i>	<i>Allowable Noise Exposure Increase</i>
45	51	52	7
50	53	55	5
55	55	58	3
60	57	62	2
65	60	66	1
70	64	71	1
75	65	75	0

Source: Office of Planning, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment. Final Report*, April 1995

METHOD OF ANALYSIS

Since noise is a highly localized impact, specific and detailed analyses are most appropriate at the project level. Therefore, in this program EIR, the method to assess noise impacts of the proposed Transportation 2030 Plan is to review the list of proposed transportation improvements and assess the likelihood of potentially significant noise impacts based on the type of project, location, and general land uses surrounding the project. A doubling of traffic on a road is generally required to

increase noise levels by a perceptible level, which is 3 dBA. For the purposes of this EIR, a 3dBA noise level increase is considered a significant noise impact. Subsequent project-specific environmental review will be required to further analyze these proposed improvements to determine the magnitude of noise and vibration impacts, and to identify appropriate potential mitigations for each individual project.

While the criteria for determining potentially adverse impacts apply to specific projects in the proposed Transportation 2030 Plan, a comparison of the roadway noise impacts on a county-wide and Bay Area-wide basis provides for a meaningful comparison of the overall effects of the proposed Transportation 2030 Plan and No Project alternative relative to the existing conditions (2000).

Noise associated with highway and other roadway traffic is dependent on a number of variables including:

- Traffic volume;
- Motor vehicle speed;
- Motor vehicle fleet mix (cars, trucks, etc.);
- Presence or absence of intervening barriers (e.g., earthen berms or sound walls); and,
- Location of the roadway with respect to sensitive receptors.

Noise from roadway traffic is generally measured in terms of one-hour equivalent steady-state sound levels that contain the same acoustic energy as a time-varying sound level (L_{eq1h}). Following Federal Highway Administration (FHWA) guidance, noise impacts occur when predicted noise levels increase substantially compared to existing levels, or when noise levels approach or exceed the FHWA's noise abatement criteria (NAC).

To evaluate the proposed Transportation 2030 Plan, the existing condition (2000) was compared with the future 2030 No Project and 2030 Project scenarios. The comparisons were accomplished by querying the GIS data maintained by MTC using SAS Software scripts to develop results for each alternative and scenario. SAS Software is a data management, analysis and presentation tool. Specifically, it is a querying tool used to pull data from a data set based on specified parameters and is used to produce queries, reports and/or interpret the results of data analysis. For the purposes of this EIR, SAS Software was used to extract data (including vehicle speed, volume, and fleet mix data, as well as segment length and type data) and to manipulate the data by integrating traffic noise modeling equations and principles to predict noise levels at specified distances from the roadway centerlines in order to determine where potential noise impacts could occur.

Noise level predictions were made for the entire modeled roadway network using the FHWA Noise Prediction Model adjusted to reflect California Vehicle Noise (Calveno) Reference Energy Mean Emissions Levels developed by Caltrans. For this modeling effort, average weekday a.m. peak hour traffic volumes and speeds were used. Estimated noise levels correspond to a distance of 100 feet from the centerline of the roadway. The modeling effort looked at directional miles

Part Two: Settings, Impacts, and Mitigation Measures

Chapter 2.5: Noise

and added 3 dBA to the calculated noise level to account for traffic traveling in the opposite direction for a given roadway segment. This approach conservatively doubles the traffic volumes for noise estimation purposes. The analysis also does not take into account surrounding land uses; it is assumed that sensitive receptors could be located within 100 feet of the roadway centerline for all modeled roadway segments.

First, the evaluation identifies the potential for absolute noise impacts. Following guidance published by Caltrans and the FHWA, a noise impact is determined to occur if predicted noise levels approach the NAC for noise sensitive land uses by 1 dBA; 66 dBA is the threshold for potentially significant noise impacts. The analysis estimates the number of roadway miles under each scenario where noise levels would be equal to or greater than 66 dBA at a distance of 100 feet from the centerline of the roadway. Table 2.5-5 identifies the total miles of potentially impacted roadways (freeways, expressways, and arterials) that would result in noise levels exceeding 66 dBA for each County and the Bay Area as a whole for existing conditions (2000), 2030 No Project, and 2030 Proposed Project (Transportation 2030 Plan) scenarios.

Secondly, the entire network of roadways was evaluated to determine whether there would be an anticipated increase of 3 dBA or more from existing conditions (2000). Table 2.5-6 shows the results of this analysis.

Table 2.5-5: Roadway Directional Miles > 66 dBA NAC Level, and Total Directional Miles, by Roadway Type and County (2000 to 2030)

County	Roadway Type	2000				2030 No Project				Net Change From 2000				2030 Project				Net Change From 2000			
		# over 66 dBA	Total	% over 66 dBA	# over 66 dBA	Total	% over 66 dBA	# over 66 dBA	Total	% over 66 dBA	# over 66 dBA	Total	% over 66 dBA	# over 66 dBA	Total	% over 66 dBA	# over 66 dBA	Total	% over 66 dBA	# over 66 dBA	Total
San Francisco	Freeways	52	53	99.2%	52	53	99.2%	0	0	0.0%	0	0	0.0%	52	53	99.2%	0	0	0.0%	0	0
	Expressways	1	2	43.6%	1	2	43.6%	0	0	0.0%	0	0	0.0%	1	2	43.6%	0	0	0.0%	0	0
	Arterials	17	631	2.6%	26	633	4.0%	9	2	1.4%	9	2	1.4%	27	633	4.3%	11	2	1.7%	11	2
San Mateo	Freeways	164	170	96.9%	165	170	96.9%	0	0	0.1%	0	0	0.1%	164	170	96.7%	0	0	-0.2%	0	0
	Expressways	12	31	36.6%	16	31	49.7%	4	0	13.1%	4	0	13.1%	15	31	49.2%	4	0	12.6%	4	0
	Arterials	6	1,062	0.6%	9	1,130	0.8%	3	68	0.2%	3	68	0.2%	9	1,130	0.8%	3	68	0.2%	3	68
Santa Clara	Freeways	311	318	97.8%	319	326	97.9%	7	7	0.1%	7	7	0.1%	325	333	97.7%	14	14	0.0%	14	14
	Expressways	124	240	51.8%	160	235	68.2%	36	-6	16.4%	36	-6	16.4%	156	228	68.3%	31	-13	16.5%	31	-13
	Arterials	76	2,065	3.7%	117	2,067	5.7%	41	2	2.0%	41	2	2.0%	113	2,073	5.5%	38	9	1.8%	38	9
Alameda	Freeways	302	305	99.0%	298	305	97.9%	-4	0	-1.2%	-4	0	-1.2%	302	305	99.0%	0	0	0.0%	0	0
	Expressways	13	36	37.6%	21	45	46.3%	7	9	8.7%	7	9	8.7%	23	45	51.1%	9	9	13.5%	9	9
	Arterials	62	1,782	3.5%	86	1,811	4.7%	24	29	1.3%	24	29	1.3%	92	1,817	5.1%	30	34	1.6%	30	34
Contra Costa	Freeways	192	194	99.1%	183	184	99.4%	-9	-10	0.3%	-9	-10	0.3%	193	195	98.8%	1	1	-0.2%	1	1
	Expressways	2	17	13.0%	25	45	54.7%	22	28	41.8%	22	28	41.8%	15	34	42.2%	12	18	29.2%	12	18
	Arterials	23	1,532	1.5%	41	1,551	2.6%	18	19	1.1%	18	19	1.1%	41	1,554	2.6%	17	22	1.1%	17	22
Solano	Freeways	167	171	97.7%	171	174	98.3%	4	3	0.6%	4	3	0.6%	171	174	98.3%	4	3	0.6%	4	3
	Expressways	37	49	76.1%	35	60	58.3%	-3	11	-17.8%	-3	11	-17.8%	38	72	52.7%	1	23	-23.4%	1	23
	Arterials	34	732	4.7%	60	734	8.2%	26	2	3.5%	26	2	3.5%	60	742	8.1%	26	10	3.4%	26	10
Napa	Freeways	10	10	100.0%	24	24	100.0%	14	14	0.0%	14	14	0.0%	24	24	100.0%	14	14	0.0%	14	14
	Expressways	44	47	92.8%	35	37	93.3%	-9	-10	0.6%	-9	-10	0.6%	37	37	99.0%	-7	-10	6.3%	-7	-10
	Arterials	13	488	2.8%	40	484	8.3%	27	-4	5.5%	27	-4	5.5%	40	484	8.3%	27	-4	5.5%	27	-4
Sonoma	Freeways	131	131	100.0%	132	132	99.7%	1	1	-0.3%	1	1	-0.3%	132	132	100.0%	1	1	0.0%	1	1
	Expressways	15	20	75.9%	16	20	76.6%	0	0	0.7%	0	0	0.7%	16	20	76.6%	0	0	0.7%	0	0
	Arterials	6	1,136	0.5%	14	1,160	1.2%	8	24	0.7%	8	24	0.7%	15	1,161	1.3%	9	25	0.8%	9	25
Marin	Freeways	77	77	100.0%	77	77	99.6%	0	0	-0.4%	0	0	-0.4%	77	77	100.0%	0	0	0.0%	0	0
	Arterials	7	555	1.3%	9	559	1.6%	2	4	0.3%	2	4	0.3%	8	560	1.5%	1	5	0.2%	1	5
	Freeways	1,407	1,428	98.5%	1,420	1,444	98.4%	13	16	-0.1%	13	16	-0.1%	1,441	1,462	98.5%	34	34	0.0%	34	34
Bay Area	Expressways	248	442	56.2%	307	475	64.6%	58	32	8.4%	58	32	8.4%	299	469	63.8%	51	27	7.6%	51	27
	Arterials	244	9,982	2.4%	401	10,129	4.0%	156	147	1.5%	156	147	1.5%	405	10,154	4.0%	161	172	1.7%	161	172
	Combined	1,900	11,853	16.0%	2,127	12,047	17.7%	228	195	1.6%	228	195	1.6%	2,146	12,086	17.8%	246	233	1.7%	246	233

Source: Environmental Science Associates, 2004; Metropolitan Transportation Commission, 2004

Table 2.5-6: Roadway Directional Miles with Significant Increase in Noise Levels (> 3 dBA), 2000 to 2030 No Project and 2030 Project Scenarios

County	Roadway Type	2030 No Project			2030 Project		
		> 3 dBA Increase	Total	% with > 3 dBA increase	> 3 dBA Increase	Total	% with > 3 dBA increase
San Francisco	Freeways	0	53	0.0%	2	53	4.3%
	Expressways	<1	2	28.2%	<1	2	28.2%
	Arterials	88	625	14.0%	93	625	14.8%
San Mateo	Freeways	1	170	0.8%	7	170	4.3%
	Expressways	6	31	19.2%	6	31	18.4%
	Arterials	137	1,124	12.2%	144	1,124	12.8%
Santa Clara	Freeways	20	321	6.4%	41	328	12.6%
	Expressways	28	235	11.9%	21	228	9.3%
	Arterials	498	2,059	24.2%	372	2,060	18.1%
Alameda	Freeways	4	305	1.4%	7	305	2.2%
	Expressways	8	35	22.1%	11	35	31.2%
	Arterials	398	1,772	22.5%	276	1,773	15.6%
Contra Costa	Freeways	3	180	1.6%	15	190	7.7%
	Expressways	7	27	27.1%	8	17	50.0%
	Arterials	417	1,531	27.2%	332	1,531	21.6%
Solano	Freeways	5	171	2.9%	6	171	3.5%
	Expressways	14	57	24.9%	17	59	28.7%
	Arterials	233	715	32.5%	220	713	30.9%
Napa	Freeways	12	24	51.5%	11	24	48.5%
	Expressways	2	37	5.2%	0	37	0.0%
	Arterials	99	484	20.4%	57	484	11.8%
Sonoma	Freeways	6	120	4.8%	11	120	9.4%
	Expressways	0	20	0.0%	0	20	0.0%
	Arterials	151	1,119	13.5%	106	1,119	9.4%
Marin	Freeways	0	77	0.0%	11	77	14.5%
	Arterials	44	555	7.9%	34	555	6.1%
Bay Area	Freeways	52	1,418	3.7%	112	1,435	7.8%
	Expressways	66	444	14.8%	64	430	14.9%
	Arterials	2,063	9,984	20.7%	1,634	9,985	16.4%
	Combined	2,181	11,847	18.4%	1,809	11,849	15.3%

Source: Environmental Science Associates, 2004; Metropolitan Transportation Commission, 2004

SUMMARY OF IMPACTS

Direct Impacts

Implementation of transportation improvements in the proposed Transportation 2030 Plan could result in both short- and long-term impacts on noise levels in the nine-county San Francisco Bay Area.

Short Term Impacts

Many of the transportation improvements in the proposed Transportation 2030 Plan would entail construction, which could generate localized, short-term noise impacts, depending on the location and proximity of noise-sensitive land uses.

Long Term Impacts

Both Tables 2.5-5 and 2.5-6 show that noise levels will increase for both the 2030 No Project and 2030 Proposed Project scenarios relative to 2000 conditions. Numerous transportation improvements in the proposed Transportation 2030 Plan have been identified as having potentially significant local noise impacts, either from vehicle or rail travel. It should be noted that noise mitigation for these new projects may reduce noise in communities that would otherwise continue to experience adverse noise impacts from existing and future traffic had not the proposed Transportation 2030 Plan improvements occurred.

Indirect/Cumulative Impacts

The growth in traffic throughout the Bay Area could produce cumulative noise impacts that would increase noise in some locations, depending on the local setting. Noise levels may or may not reach thresholds for perceptible increases as defined above.

IMPACTS & MITIGATION

Impact

2.5-1 Construction of the transportation improvements proposed in the Transportation 2030 Plan would have short-term noise impacts on surrounding areas. (*Significant, mitigable*)

Many of the transportation improvements in the proposed Transportation 2030 Plan would entail construction, often using heavy equipment. Depending on the proximity of such activities to noise sensitive uses, construction activities associated with individual projects could generate localized, short term noise impacts from excavation, grading, hauling, concrete pumping, and a variety of other activities requiring the operation of heavy equipment. In these cases, construction of individual projects could cause exposure of persons to or generation of noise levels in excess of standards established in the applicable local general plan or noise ordinance standards.

Mitigation Measures

2.5(a) Project sponsors shall commit to mitigation measures at the time of certification of each environmental document and at the time of project approval. Construction noise mitigation normally required by Caltrans' *Standard Specifications and Standard Special Provisions*, as well as local city and county ordinances shall be implemented for individual Transportation 2030 Plan projects that include physical construction activities. Construction mitigation measures generally limit construction activities to times when construction noise would have the least effect on adjacent land uses, and would require such measures as properly muffling equipment noise, locating equipment as far from sensitive receptors as possible, and turning off equipment when not in use. Some jurisdictions may also have property line or other noise level limits that must be adhered to during construction.

These mitigation measures would be expected to reduce potentially significant construction-related noise impacts to a less-than-significant level if incorporated by project sponsors.

Impact

2.5-2 Transportation improvements proposed as part of the Transportation 2030 Plan could result in noise levels that approach or exceed the FHWA and FTA Noise Abatement Criteria or that could cause noise levels to increase by 3 dBA or more. (*Significant, mitigable*)

Transportation improvements that could contribute to increased noise levels include new roadways, roadway realignments, addition of highway lanes and ramps, and use of new transit facilities as well as increased use of existing transit facilities.

Referring back to Table 2.5-5, nearly all freeway miles on the modeled roadway network under each of the three scenarios exceed the NAC for noise-sensitive uses of 66 dBA. Roadway noise levels along expressways would be most affected by implementation of the 2030 Proposed Project and No Project alternative; for the region as a whole, the 2030 Proposed Project and the No Project alternative would increase the percentage of roadway miles that met the 66 dBA criterion by 8.4% and 7.6%, respectively. The percentage of arterials that meet the 66 dBA criterion would also increase under future scenarios.

Table 2.5-6 shows that both the 2030 No Project and 2030 Proposed Project scenarios would increase the percentage of roadway miles where noise levels would increase by 3 dBA or more relative to 2000 conditions.

A number of transportation improvements in the proposed Transportation 2030 Plan have been identified as having potentially significant local noise impacts, either from vehicle or rail travel. Direct impacts could result from new transit lines (noise and ground borne vibration), widening of freeways, expressways or arterials that brings noise closer to sensitive land uses, or addition of new lanes that result in higher traffic volumes and speeds. Project-level analysis may or may not find significant noise impacts depending upon the project and the existing or projected land use.

Table 2.5-7, which appears at the end of this chapter, lists individual transportation improvements in the proposed Transportation 2030 Plan that have the potential to create a significant noise impact since they could trigger significance criterion 2 or 3, as defined above, related to either roadway or rail. It should be noted that the list of projects in Table 2.5-7 are indicative of projects most likely to generate potentially significant noise impacts due to facility operation, but the list is neither exhaustive nor definitive. Each of the projects included in the proposed Transportation 2030 Plan would be subject to subsequent project-specific environmental review.

Mitigation Measures

Project sponsors shall commit to mitigation measures at the time of certification of their environmental document. Noise mitigation measures must respond to local land use compatibility criteria, and, if federal funding is used for the project, mitigation measures must also conform to applicable FHWA or FTA noise abatement criteria. These commitments obligate project sponsors to implement measures that would minimize or eliminate any significant impacts. Typical mitigation measures that should be considered by project sponsors include:

2.5(b) Construction of sound walls adjacent to new or improved roads or transit lines. Noise level increases could, in most cases, be mitigated to levels at or below existing levels if sound walls were constructed along the rights-of-way. A determination of the specific heights, lengths, and feasibility of sound walls must be part of the project-level environmental assessment. Caltrans will evaluate the feasibility of sound walls based on the height required to attenuate noise, the number of people protected, and the cost of the sound wall. It is likely that FHWA noise abatement criteria would be met if sound walls are included along the identified projects. Where the proposed Transportation 2030 Plan would improve existing roadways, sound walls would also result in a reduction of overall sound levels, even considering potential increases from road widenings and additional traffic. As a result, the implementation of this mitigation measure can avoid project noise impacts *and* reduce existing noise levels along a number of heavily-traveled corridors in the region.

2.5(c) Adjustments to proposed roadway or transit alignments to reduce noise levels in noise sensitive areas. For example, depressed roadway alignments can effectively reduce noise levels in nearby areas.

2.5(d) Insulation of buildings or construction of noise barriers around sensitive receptor properties.

- Vibration isolation of track segments.
- Use of local land use policies by local agencies to guide the location of noise sensitive uses to sites away from roadways and rail corridors.

As noted, the implementation of noise mitigation will, in some cases, more than offset the noise impacts of a particular transportation improvement. As a result, the proposed Transportation 2030 Plan has the potential to bring noise abatement benefits to communities that currently experience noise problems resulting from existing traffic.

These mitigation measures would be expected to reduce potentially significant noise impacts to a less-than-significant level if incorporated by project sponsors.

Cumulative Impact

2.5-3 Forecast population and employment will result in increased traffic volumes in individual counties in the Bay Area and could, in turn, increase noise levels along some of the travel corridors in those counties. *(Significant, unavoidable)*

Cumulative Growth that would be served by transportation improvements in the proposed Transportation 2030 Plan will result in cumulative noise impacts in some locations. The significance of this cumulative effect will vary, depending on the location, degree of traffic increase, and proximity of sensitive land uses.

Mitigation Measures

Except where future transportation improvements create the need for noise mitigation, increased noise in other parts of the Bay Area would not necessarily be mitigated unless communities and local transportation authorities: 1) determine that a noise problem exists and that the problem is one of a perceptible nature, and 2) identify local or other transportation funds not currently included in the proposed T2030 Plan to provide the necessary mitigation. In many corridors, the projected traffic increases are unlikely to produce perceptible increases in noise since there may not be any sensitive receptors nearby and the increased volumes would not trigger a significant impact.

These mitigation measures are not expected to reduce all potentially significant cumulative noise impacts to a less-than-significant level, since there may be locations where a current or future problem exists and there is no funding identified to provide the necessary mitigation.

Table 2.5-7: Transportation Projects with Potential Noise Impacts

<i>Project ID</i>	<i>Corridor</i>	<i>Investment*</i>	<i>Description</i>
20001	Santa Clara Co-wide	V	US 101/Bailey Ave I/C improvements
21030	Alameda Co-wide	N	I-580/US 101 I/C impvts and new fwy-to-fwy connectors from WB I-580 to NB and SB US 101
21036	Alameda Co-wide	N	Selected add'l I-680 aux Ins south of I-680/Rte 24 I/C
21066	Region	N	California High-Speed Rail with terminal in San Francisco
21093	Alameda Co-wide	N	Rte 92/Clawiter Rd/Whitesell St I/C improvements
21100	Alameda Co-wide	N	I-580/Vasco Rd I/C improvements
21101	Alameda Co-wide	N	Extend Tinker Ave from Webster St to 5th Ave
21103	Eastshore-North	V	Central Ave railRd overpass
21105	Eastshore-North	V	I-580/Isabel I/C improvements (Phases 1 and 2)
21107	Eastshore-North	V	I-880/High St I/C improvements
21114	Eastshore-North	V	Washington/Paseo Padre Parkway Grade Separation
21123	Eastshore-North	V	Union City Intermodal Sta infrastructure impvts (Phase 2)
21131	Eastshore-North	N	BART-Oakland International Airport connector)
21132	Eastshore-North	N	BART extension to Warm Springs
21185	Eastshore-South	V	Extend Eden Rd from Doolittle Dr to city of San Leandro water pollution control plant
21205	Eastshore-South	N	I-680/Rte 4 I/C fwy-to-fwy direct connectors: EB Rte 4 to SB I-680, and NB I-680 to WB Rte 4 (Phases 1 and 2)
21206	Eastshore-South	N	Caldecott Tunnel fourth bore
21209	Eastshore-South	N	Hercules Transit Center relocation and expansion
21210	Eastshore-South	N	Capitol Corridor train station in Hercules
21211	Eastshore-South	N	BART/East Contra Costa rail extension
21212	Eastshore-South	N	Construct aux In along EB Rte 4 and widen Hillcrest Ave EB off-ramp to 2 Ins
21214	Eastshore-South	N	Widen Wilbur Ave over Burlington Northern Santa Fe Rail Rd to 4 Ins
21216	Eastshore-South	N	Extend Laurel Rd from Rte 4 Bypass to Empire Ave
21306	Eastshore-South	N	US 101/Lucas Valley Rd I/C improvements (initial phase)
21317	Eastshore-South	N	Widen Rte 1 from US 101 to Flamingo Rd
21325	Eastshore-South	N	US 101/Greenbrae I/C improvements
21326	Eastshore-South	N	US 101/Tiburon Blvd I/C improvements (remaining phases)
21334	Eastshore-South	V	US 101/Lucas Valley Rd I/C improvements (remaining phases)
21342	Fremont-So. Bay	V	Caltrain downtown ext/Transbay Terminal replacement
21348	Fremont-So. Bay	C	Install a second span along existing Green Valley Bridge
21349	Fremont-So. Bay	C	US 101/Ralston Ave I/C improvement
21455	Fremont-So. Bay	C	Widen I-238 /b/ I-580 and I-880 to 6 Ins and aux Ins on I-880 south of I-238
21456	Fremont-So. Bay	C	I-580 aux Ins between Santa Rita Rd/Tassajara Rd and Airway Blvd I/Cs
21466	Fremont-So. Bay	C	Washington Ave/Beatrice St I/C improvements
21467	Fremont-So. Bay	C	Extend Westgate Parkway along eastern edge of Westgate Shopping Center between Williams St and Davis St

Table 2.5-7: Transportation Projects with Potential Noise Impacts

Project ID	Corridor	Investment*	Description
21472	Fremont-So. Bay	C	I-680/Bernal Ave I/C improvements
21473	Fremont-So. Bay	N	Construct a 4-ln mjr arterial connecting Dublin Blvd and North Canyons Pwy
21475	Fremont-So. Bay	N	I-580/First St I/C improvements
21477	Fremont-So. Bay	N	I-580/Greenville Rd I/C improvements
21482	Fremont-So. Bay	N	Extend Fremont Blvd to connect to I-880/Dixon Landing Rd
21483	Fremont-So. Bay	N	Widen Stevenson Blvd from I-880 to Blacow Rd from 4 lns to 6 lns
21484	Fremont-So. Bay	N	Widen Kato Rd from Warren Ave to Milmont Dr
21487	Sunol Gateway	C	Widen Mowry Ave from Mission Blvd to Peralta Blvd
21489	Sunol Gateway	N	I-580/San Ramon Rd/Foothill Rd I/C improvements
21492	Sunol Gateway	N	Extend Scarlett Dr from Dublin Blvd to Dougherty Rd
21510	Tri-Valley	V	Third St light-rail transit extension to Chinatown, Phase 2 (Central Subway)
21602	Tri-Valley	C	US 101/BRdway I/C reconstruction
21603	Tri-Valley	C	US 101/Woodside Rd I/C improvements
21604	Tri-Valley	C	US 101 aux lns from Sierra Point to San Francisco Co line
21605	Tri-Valley	C	US 101/Oyster Point Blvd I/C improvements (Phases 2 and 3)
21606	Tri-Valley	C	US 101/ Willow Rd I/C reconstruction
21607	Tri-Valley	C	US 101/University Ave I/C reconstruction
21608	Tri-Valley	C	US 101 NB and SB aux lns from Marsh Rd to Santa Clara Co line
21609	Tri-Valley	C	I-280/I-380 local access impvts from Sneath Ln and San Bruno Ave to I-380
21610	Tri-Valley	C	US 101 aux lns from San Bruno Ave to Grand Ave
21612	Tri-Valley	C	Improvement of Dumbarton Bridge access to US 101 (Phase I)
21613	Tri-Valley	N	Rte 92 impvts from San Mateo Bridge to I-280; includes uphill passing ln from US 101 to I-280 (Phase I)
21615	Tri-Valley	N	I-280/Rte I I/C safety improvements (initial phase)
21617	Tri-Valley	N	Caltrain Express service between San Francisco and San Jose; includes passing tracks and rolling stock (Phase I)
21618	Tri-Valley	N	Dumbarton rail corridor (Phase I)
21619	Tri-Valley	N	Caltrain express tracks (Phase 2)
21626	Tri-Valley	N	Caltrain grade separation program (San Mateo Co)
21702	Eastshore-North	C	US 101/Buena Vista Ave I/C construction
21703	Eastshore-North	C	I-880/Coleman Ave I/C improvements
21704	Eastshore-North	C	Improve I-280 downtown access between 3rd St and 7th St
21705	Eastshore-North	C	Rte 237/El Camino Real/Grant Rd intersection improvements
21708	Eastshore-South	V	Add I-280 NB braided ramps between Foothill Expressway and Rte 85
21713	Golden Gate	V	Construct aux ln on EB Rte 237 from North First St to Zanker Rd
21714	Golden Gate	V	Widen US 101 /b/ Monterey Hwy and Rte 25 (includes an ext to Santa Teresa Blvd) and construct a full I/C at US 101/Rte 25/Santa Teresa Blvd
21715	Golden Gate	C	Rte 152/Rte 156 I/C improvements
21716	Golden Gate	C	Widen Rte 237 to 6 lns for HOV lns /b/ Rte 85 and east of Mathilda Ave

Table 2.5-7: Transportation Projects with Potential Noise Impacts

Project ID	Corridor	Investment*	Description
21717	Golden Gate	C	Widen Rte 25 from US 101 to Rte 156 to 6 Ins (includes new I/C at Rte 156)
21718	Peninsula	N	Rte 85 NB and SB aux Ins between Homestead Ave and Fremont Ave
21719	Peninsula	N	I-880/I-280/Stevens Creek Blvd I/C improvements (Phase I)
21720	Region	V	US 101/Tennant Ave I/C improvements
21722	Region	V	US 101 SB Trimble Rd/De La Cruz Blvd/Central Expressway I/C impvts
21723	Region	V	US 101/Tully Rd I/C modifications
21724	Region	V	Widen US 101 for NB and SB aux In from Trimble Rd to Montague Expwy
21727	Region	V	Rte 87/US 101 ramp connection to Trimble Rd I/C
21749	Region	C	Extend Butterfield Blvd from Tennant Ave to Watsonville Rd
21760	Region	C	Double-track segments of the Caltrain line between San Jose and Gilroy
21770	Region	C	Extend Caltrain from Gilroy to Salinas
21785	Region	N	US 101/Blossom Hill Rd I/C improvements
21786	Region	N	US 101/Hellyer Ave I/C modifications
21807	Region	N	Widen I-80 from I-680 to Air Base Parkway to 10 Ins for HOV Ins
21824	Region	N	Rte 12 from I-80 to Sacramento Bridge capacity and oper impvts
21884	Contra Costa Co-wide	V	Petaluma cross town connector/I/C
21886	Contra Costa Co-wide	V	Widen unimproved segment of Industrial Pwy /b/ Whipple Rd and improved segment of Industrial Pwy to 4 Ins
21888	Contra Costa Co-wide	C	Construct flyover from Sanitary Landfill Rd east of US 101 to SB US 101
21892	Contra Costa Co-wide	C	Widen Rte 84 from 4 Ins to 6 Ins from El Camino Real to BRdway
21896	Contra Costa Co-wide	N	Rte 84 vertical and horizontal alignment impvts in Fremont
21902	Contra Costa Co-wide	N	Widen US 101 for HOV Ins from Old Redwood Hwy to Rohnert Pk Expwy
21922	Contra Costa Co-wide	N	San Jose International Airport connections to Guadalupe LRT
22002	Delta	V	Extend HOV In on I-880 NB from existing HOV terminus at Bay Bridge approach to Maritime on-ramp
22003	Delta	V	Capitol Corridor: Phase 2 enhancements
22005	Delta	V	ACE service expansion to eight (8) trains
22009	Delta	V	Capitol Corridor intercity rail service (track capacity/frequency impvts from Oakland to San Jose)
22010	Delta	C	Construct I-280 NB second exit In to Foothill Expressway
22011	Delta	C	BART/East Contra Costa rail extension (Construction)
22012	Delta	C	Rte 237 EB aux In improvement from North First St to Zanker Rd
22013	Delta	C	I-580 corridor improvements
22016	Delta	C	Various HOV In gap closures to complete the HOV/HOT network
22017	Delta	C	Construct Rte 237 EB to Mathilda Ave flyover off-ramp
22018	Delta	C	US 101/Mathilda Ave I/C improvements
22019	Delta	C	Downtown E Valley: Santa Clara/Alum Rock and Capitol Expwy to Nieman
22020	Delta	C	US 101 NB braided ramps between Capitol Expressway and Yerba Buena Rd
22022	Delta	C	Palo Alto Smart Residential Arterials

Table 2.5-7: Transportation Projects with Potential Noise Impacts

Project ID	Corridor	Investment*	Description
22038	Delta	C	San Francisco-Oakland Bay Bridge toll plaza HOV bypass Ins
22042	Delta	C	Widen I-680 for NB HOV In from Rte 237 to Stoneride Dr
22063	Delta	N	Rte 238 corridor improvements between Foothill Blvd/Mattox Rd to Mission Blvd/Industrial Pwy
22064	Delta	N	Convert SB HOV In on I-680 /b/ Rte 84 and Rte 237 into HOT In
22082	Diablo	V	Reconstruct 7th St/Union Pacific RailRd grade separation
22084	Diablo	V	Oakland International Aiport North Field access Rd
22085	Diablo	V	Various grade separations at Union Pacific RailRd tracks
22088	Diablo	V	I-580/I-680 I/C truck bypass Ins
22091	Diablo	V	Upgrade Rte 152 to a limited access 4-In fwy
22106	Diablo	V	Extend Whitesell St as a 4-In arterial from Enterprise to Depot Rd
22118	Diablo	C	Extend Hill Rd to Peet Ave
22127	Diablo	C	Rte 85 NB and SB aux Ins from Stevens Creek Blvd to Saratoga/Sunnyvale Rd
22128	Diablo	C	Rte 85 NB and SB aux Ins from Saratoga/Sunnyvale Rd to Saratoga Ave
22130	Diablo	C	Rte 85 NB and SB aux Ins from Saratoga Ave to Winchester Blvd
22134	Diablo	C	Widen US 101 SB from Story Rd to Yerba Buena Rd
22138	Diablo	C	Widen US 101 to 4 Ins from Rte 25 to Santa Clara/San Benito Co line
22140	Diablo	C	Widen US 101 between Cochrane Rd and Monterey Highway to 8 Ins
22145	Diablo	N	Widen WB Rte 237 on-ramp from Rte 237 to NB US 101 to 2 Ins and add aux In on NB US 101 from Rte 237 on-ramp to Ellis St I/C
22147	Diablo	N	US 101 I/C at Zanker Rd/Skyport Dr/North Fourth St (Phase I)
22152	Diablo	N	Reconstruct Mathilda Ave bridge over Caltrain tracks and Evelyn Ave
22153	Diablo	N	Extend Mary Ave north across Rte 237
22156	Diablo	N	Rte 85 NB to SR 237 EB connector ramp improvements
22158	Eastshore North	C	Rte 85 aux Ins between Fremont Ave and El Camino Real
22161	Eastshore North	C	Rte 85 aux Ins between El Camino Real and Rte 237, and Rte 85/El Camino Real I/C improvements
22162	Eastshore-North	V	Rte 237 WB to Rte 85 SB connector ramp improvements
22164	Eastshore-North	V	Rte 237 WB on-ramp at Middlefield Rd
22165	Eastshore-North	V	US 101 SB to Rte 237 EB aux In improvements (Phase I)
22167	Eastshore-North	V	US 101 SB braided ramps between Capitol Expressway and Yerba Buena Rd
22169	Eastshore-North	V	Widen Coleman Ave from Hedding St and a future Autumn St extension from 4 Ins to 6 Ins
22170	Eastshore-North	V	Construct I-880 overcrossing on Charcot Ave between Paragon Dr and Old Oakland Rd as a reliever Rte to Montague Expressway and Brokaw Rd
22171	Eastshore-North	V	Extend Autumn St from Julian St to Coleman Ave to connect I-880 to west part of downtown San Jose
22175	Eastshore-North	V	Widen Almaden Expwy between Coleman Rd and Blossom Hill Rd to 8 Ins
22176	Eastshore-North	V	Widen Berryessa Rd from I-680 to Commercial St from 4 Ins to 6 Ins
22177	Eastshore-North	V	Widen Branham Ln from Vista Park Dr to Snell Ave from 4 Ins to 6 Ins

Table 2.5-7: Transportation Projects with Potential Noise Impacts

Project ID	Corridor	Investment*	Description
22178	Eastshore-North	V	Replace 4-In structure with 6-In bridge on Calaveras Blvd over Union Pacific RailRd from Abel St to Milpitas Blvd
22179	Eastshore-North	N	Widen Central Expwy /b/ Lawrence Expwy and San Tomas Expwy to 6 Ins
22180	Eastshore-North	N	Widen Central Expressway between Lawrence Expressway and Mary Ave to provide aux acceleration and/or deceleration Ins
22181	Eastshore-North	N	Construct 4-In bridge over Guadalupe River /b/ Almaden Expressway and Fell Ave to connection sections of Chynoweth Ave
22183	Eastshore-North	N	Widen Lucretia Ave to 4 Ins from Story Rd to Phelan Ave
22185	Eastshore-North	N	Widen Oakland Rd to 6 Ins from US 101 to Montague Expressway
22186	Transbay Bay Bridge	V	Widen San Tomas Expressway between Rte 82 and Williams Rd to 8 Ins
22191	Golden Gate	V	US 101/Airport Blvd I/C improvements
22192	Golden Gate	V	Widen Airport Blvd from 2 Ins to 4 Ins (also includes a center turn In)
22193	Golden Gate	V	Construct Forestville bypass on Rte 116
22195	Golden Gate	V	Old Redwood Highway/US 101 I/C improvements
22197	Golden Gate	V	Penngrove local Rd improvements including RailRd Ave I/C
22204	Golden Gate	V	Widen Fulton Rd from Guerneville Rd to US 101 from 2 Ins to 4 Ins
22205	Golden Gate	V	US 101/Hearn Ave I/C impvts; including widening overcrossing and ramps
22206	Golden Gate	V	Construct Rte 12/Fulton Rd I/C
22207	Golden Gate	V	Extend Farmers Ln as a 3-In or 4-In arterial from Bellevue Ave to Rte 12
22224	Golden Gate	C	Caltrain and California High Speed Rail grade separations and sta in Atherton
22227	Golden Gate	C	Extend Geneva Ave from Bayshore Blvd to US 101/Harney ramps to 6 Ins
22228	Golden Gate	C	Extend Lagoon Way to connect to US 101, Bayshore Blvd and Guadalupe Canyon Parkway
22229	Golden Gate	C	US 101/Sierra Point Parkway I/C replacement
22230	Golden Gate	N	Study of I-280 aux Ins from I-380 to Hickey Blvd
22231	Golden Gate	N	Widen north side of John Daly Blvd/I-280 overcrossing for additional WB traffic In and dedicated right-turn In for SB I-280 off-ramp
22255	Marin Co-wide	C	Construct Illinois St Intermodal Bridge across Islais Creek to connect to Port of San Francisco's Pier 80 cargo terminal
22271	Napa Co-wide	V	Widen Skyline Blvd (Rte 35) to 4-In Rdway from I-280 to Sneath Ln
22273	Napa Co-wide	V	US 101/Candlestick I/C reconstruction (Phase 2)
22279	Napa Co-wide	V	US 101/Produce Ave I/C project
22282	Napa Co-wide	C	Widen US 101 SB by adding 5th In from WB Rte 92 loop on-ramp to Ralston Ave off-ramp
22336	Napa Co-wide	C	Widen shoulders of Byron Highway and construct grade separation over Union Pacific RailRd tracks
22350	Napa Valley	V	I-680/Rte 4 I/C improvements (Phases 3 through 5) and HOV flyover ramps
22351	Napa Valley	V	I-680 NB HOV gap closure between North Main St and Rte 242
22352	Napa Valley	C	I-680/Norris Canyon Rd HOV direct ramps in San Ramon
22353	Napa Valley	C	I-680 SB HOV gap closure between North Main St and Livorna
22354	Napa Valley	C	I-680/Marina Vista I/C improvements

Table 2.5-7: Transportation Projects with Potential Noise Impacts

Project ID	Corridor	Investment*	Description
22355	North Bay East-West	V	I-80/Central Ave I/C modifications
22358	North Bay East-West	N	I-80/Rte 4 I/C improvements
22382	San Francisco	V	Richmond Parkway/San Pablo Ave grade separated I/C
22388	San Francisco	V	Construct Rte 242/Clayton Rd NB on-ramp
22389	San Francisco	V	Construct Rte 242/Clayton Rd SB off-ramp
22390	San Francisco	V	Reconstruct Rte 4/Willow Pass Rd ramps in Concord
22392	San Francisco	V	Rte 4/Range Rd I/C construction
22400	San Francisco	V	Construct Rte 239 from Brentwood to Tracy Expressway
22412	San Francisco	N	Additional light rail vehicles (LRVs) to expand MUNI rail service
22415	San Francisco	N	Expand historic Stcar service (sales tax project)
22419	San Francisco	N	Widen US 101 for HOV Ins from Lucky Dr to North San Pedro Rd
22422	San Francisco Co-wide	C	Widen Senter Rd between Tully Rd and Capitol Expressway to 6 Ins
22424	San Francisco Co-wide	C	BART Advanced Automatic Train Control (AATC) Phase V
22429	San Francisco Co-wide	C	US 101/Manuel Freitas Parkway I/C improvements
22430	San Francisco Co-wide	C	Kerner Blvd/Francisco Blvd East/Andersen Dr underpass connector
22436	San Francisco Co-wide	V	US 101 SB aux In from Lincoln to Mission
22437	San Francisco Co-wide	V	US 101 NB aux In at Nave Dr
22438	San Francisco Co-wide	V	Bodega Highway improvements west of Sebastopol
22490	Peninsula	V	Convert bridges of Sonoma Co from one-In to two-In bridges
22513	Peninsula	V	Sonoma Marin Area Rail Transit District (SMART) commuter rail (construction only)
22600	Peninsula	V	Widen Somersville Rd Bridge in Antioch to 4 Ins
22601	Peninsula	V	Rte 4 Bypass, Segment 3: construct a 2-In facility from Balfour Rd to Walnut Blvd, and upgrade Marsh Creek Rd
22602	Peninsula	C	Construct I-680 aux Ins in both directions from Sycamore Valley Rd to Crow Canyon Rd
22604	Peninsula	C	Construct safety and operational impvts (including potential realignment) on Vasco Rd from Brentwood to Alameda Co line
22605	Peninsula	C	Rte 4 Bypass, Segments 2 & 3: widen and upgrade to full fwy
22607	Peninsula	C	Major Sts widening, extensions and I/C improvements (East Co)
22609	Peninsula	C	Major Sts widening, extensions and I/C improvements (Central Co)
22610	Peninsula	C	Major Sts widening, extensions and I/C improvements (West Co)
22612	Peninsula	C	I-680/Sycamore Valley Rd direct HOV ramps in Danville
22613	Peninsula	C	Major Sts widening, extensions and I/C improvements (Southwest Co)
22622	Peninsula	C	Manor Dr/Rte 1 overcrossing widening and improvement project
22623	Peninsula	N	Widen Nut Tree overcrossing to 4 Ins
22624	Peninsula	N	Construct continuous 4-In Jepson Parkway from Suisun City to Vacaville
22625	Peninsula	N	I-80/North Texas St I/C improvements
22626	Peninsula	N	Rte 29/Rte 37 I/C improvements

Table 2.5-7: Transportation Projects with Potential Noise Impacts

Project ID	Corridor	Investment*	Description
22630	Peninsula	N	Parkway Blvd overcrossing of Union Pacific RailRd grade separation
22631	Peninsula	N	Rte 12 WB (Red Top Rd) truck ln
22632	Peninsula	N	American Canyon Rd overpass at I-80
22633	Peninsula	N	Widen Azuar Dr/Cedar Ave from P St to Residential Parkway to 4 Ins
22639	Peninsula	N	US 101/Mill St I/C in Healdsburg
22640	Peninsula	N	US 101/Shiloh Rd I/C in Windsor
22641	Peninsula	N	US 101/Baker I/C in Santa Rosa
22642	Peninsula	N	US 101/Dry Creek I/C in Healdsburg
22643	Peninsula	N	US 101/Mendocino Ave/Hopper Ave I/C
22644	Peninsula	N	US 101/Bellevue I/C
22646	Peninsula	N	US 101/River Rd I/C
22655	San Mateo Co-wide	V	Widen US 101 for HOV Ins from Rohnert Park Expwy to Santa Rosa Ave
22656	San Mateo Co-wide	V	US 101/East Washington St I/C improvements
22657	San Mateo Co-wide	V	I-205/I-580 Altamont Pass WB truck ln
22660	San Mateo Co-wide	C	Widen I-880 by adding lanes between Whipple and Jackson
22664	San Mateo Co-wide	C	I-580 High Occupancy Toll (HOT) Ins from Greenville Rd west to I-680
22666	San Mateo Co-wide	N	Rte 84 High Occupancy Toll (HOT) Ins in Tri-Valley
22667	San Mateo Co-wide	N	Tri-Valley rail extension from Dublin/Pleasanton BART Station to Greenville Rd in the I-580 median
22668	San Mateo Co-wide	N	Add NB and SB I-680 HOV Ins between Rte 84 in Alameda Co to Alcosta Blvd in Contra Costa Co
22670	San Mateo Co-wide	N	Widen I-880 for HOV Ins NB from Hacienda overcrossing to 98th Ave and SB from 98th Ave to Marina Blvd
22671	San Mateo Co-wide	N	Construct direct HOV connection between SB I-880 to WB Rte 84
22700	Eastshore-North	V	Construct parallel corridor north of I-80 from Red Top Rd to Abernathy Rd
22701	Eastshore-North	V	I-80/I-680/Rte 12 I/C improvements
22702	Eastshore-North	V	I-80/I-680/Rte 12 I/C improvements: truck scales and aux Ins (Phases 3 and 4)
22717	Eastshore-North	C	I-80/I-680/I-780 corridor improvements
22720	Peninsula	N	Caltrain grade separation program (San Mateo Co)
22722	Santa Clara Co-wide	C	Caltrain grade separation program in San Mateo Co
22723	Santa Clara Co-wide	C	Improvement of Dumbarton Bridge access to US 101 (Phase 2)
22724	Santa Clara Co-wide	V	Improve Rte 92 from San Mateo Bridge to I-280 (Phase 2)
22725	Santa Clara Co-wide	V	I-280/Rte 1 I/C improvements
22727	Santa Clara Co-wide	V	US 101/Peninsula Ave SB ramps
22729	Santa Clara Co-wide	V	I-280 aux Ins from I-380 to Hickey Blvd
22739	Santa Clara Co-wide	C	US 101 operational improvements near Rte 92
22741	Santa Clara Co-wide	N	Caltrain express tracks (Phase 2) (San Mateo Co share)
22746	Santa Clara Co-wide	N	Widen Rte 29/First St overcrossing to 4 Ins
22747	Santa Clara Co-wide	N	Rte 12/Rte 29/Rte 121 intersection improvements

Table 2.5-7: Transportation Projects with Potential Noise Impacts

<i>Project ID</i>	<i>Corridor</i>	<i>Investment*</i>	<i>Description</i>
22751	Silicon Valley	V	Rte 1 operational and safety improvements in Half Moon Bay area
22756	Silicon Valley	V	US 101/Candlestick I/C reconstruction (Phase 1)
22761	Silicon Valley	V	I-880 from Hegenberger Rd to I-980 operation improvements
22763	Silicon Valley	V	Reconstruct SB I-880 on- and off- ramps and I-880/5th St seismic retrofit
22764	Silicon Valley	V	Construct aux In on I-880 between Hegenberger Rd and 66th Ave and shift merge point of the WB Hegenberger Rd to I-880 on-ramp
22776	Silicon Valley	V	Widen Rte 84 to 4 Ins from north of Pigeon Pass to Vineyard Ave and to 4 or 6 Ins from Vineyard Ave to Jack London Blvd
22777	Silicon Valley	V	I-580 on- and off-ramp improvements in Castro Valley
22779	Silicon Valley	V	Rte 262/Warren Ave/I-880 I/C improvements (Phase 2)
22785	Silicon Valley	V	Construct I-580 EB aux In from First St to Vasco Rd
22787	Silicon Valley	V	Realign Isabel/Vallecitos intersection for through movement on Rte 84
22796	Silicon Valley	V	Construct 4-In arterial connection between future eastern end of Dublin Blvd in Dublin to North Canyons Parkway in Livermore
22800	Silicon Valley	V	BART extension into Santa Clara Co (needs operating plan)
22805	Silicon Valley	V	Widen Dixon Landing Rd to 6 Ins between North Milpitas Blvd and I-880
22806	Silicon Valley	V	Capitol Ave/Great Mall Pwy grade separation over Montague Expressway
22808	Silicon Valley	V	Caltrain grade separation program in Santa Clara Co
22814	Silicon Valley	V	Extend Foothill Expressway WB deceleration In at San Antonio Rd
22823	Silicon Valley	V	Widen Snell Ave from 4 Ins to 6 Ins from Branham Ln to Chynoweth Ave
22830	Silicon Valley	V	Widen First St/Rte 152 to add one EB In from Church St to Monterey St
22832	Silicon Valley	V	Widen Rte 152 from 2 Ins to 4 Ins from Miller Slough to Holsclaw Rd
22834	Silicon Valley	V	Widen Rte 237 for EB aux In from Mathilda Ave to Fair Oaks Ave
22839	Silicon Valley	V	Convert HOV In to mixed-flow In on Central Expressway between San Tomas and De La Cruz
22843	Silicon Valley	V	Widen Lawrence Expwy /b/ Moorpark/Bollinger and south of Calvert to 8 Ins
22845	Silicon Valley	V	Construct US 101 SB aux In from Ellis St to EB Rte 237
22848	Silicon Valley	C	Develop HOT In demonstration project on fwy corridor in Santa Clara Co
22850	Silicon Valley	C	Widen Almaden Plaza Way for a fifth In at the approach of the Rte 85/Almaden Plaza Shopping Center/Alameda Expressway intersection
22857	Silicon Valley	C	Widen US 101 for a SB aux In from I-880 to McKee Rd/Julian St
22858	Silicon Valley	C	Widen Union Ave from Los Gatos-Almaden Rd to Ross Creek to 4 Ins
22871	Silicon Valley	C	Extend 2-In Uvas Park Dr from Laurel Dr to Wren Ave
22872	Silicon Valley	C	Widen Montague Expressway for HOV Ins between I-880 and I-680
22876	Silicon Valley	C	Convert HOV Ins to mixed flow Ins on Lawrence Expressway from US 101 to Elko
22878	Silicon Valley	C	Realign Wildwood Ave to connect with Lawrence Expressway
22881	Silicon Valley	C	Construct aux In on SB Lawrence Expressway between WB Rte 237 and SB Lawrence Expressway
22888	Silicon Valley	C	Widen King Rd to 4 Ins from Aborn Rd and Barberry Ln

Table 2.5-7: Transportation Projects with Potential Noise Impacts

Project ID	Corridor	Investment*	Description
22892	Silicon Valley	N	Widen US 101 SB aux In from Great America Pwy to Lawrence Expwy
22893	Silicon Valley	N	Widen US 101 for a NB aux In from McKee/Julian St to I-880
22897	Silicon Valley	N	Widen I-680 NB for an HOV In from Rte 84 to Calaveras Blvd
22898	Silicon Valley	N	Widen I-80 from west of Meridian Rd to west of Kidwell Rd to 8 Ins
22899	Silicon Valley	N	Widen Rte 12 between Suisun City and Rio Vista to 4 Ins
22902	Silicon Valley	N	Future rail corridors to be determined by Major Investment Studies (MIS)
22911	Silicon Valley	N	Widen Farrell Ave Bridge to 2-In facility
22925	Silicon Valley	N	DeWitt Ave S-curve realignment
22945	Silicon Valley	N	Construct Aldercroft Creek Bridge on Old Santa Cruz Highway
22958	Silicon Valley	N	US 101 SB to EB Rte 237 connector improvements
22965	Silicon Valley	N	US 101/Mabury Rd/Taylor St I/C construction
22981	Silicon Valley	N	Widen Rte 4 as 4-In arterial from Marsh Creek Rd to San Joaquin Co line
22983	Silicon Valley	N	US 101/Zanker Rd/Skyport Dr/Fourth St I/C construction (Phase 2)
22986	Silicon Valley	N	Widen and improve BRdway between Rte 37 and Mini Dr from 2 Ins to 4 Ins
22988	Silicon Valley	N	Commuter Rail Service - Sacramento to Oakland (capital and operating)
22990	Silicon Valley	N	Widen Rte 262 from I-880 to Warm Springs Blvd
22991	Silicon Valley	N	Widen I-680 for SB HOV/HOT In from Rte 237 to Rte 84
94024	Silicon Valley	N	Auto/truck separation In at I-580/I-205 I/C
94030	Silicon Valley	N	Reconstruct I-880/Rte 262 I/C and widen I-880 from Rte 262 (Mission Blvd) to the Santa Clara Co to 10 Ins (8 mixed-flow and 2 HOV Ins)
94047	Silicon Valley	N	Extend the northern limits of the I-80 WB HOV In from north of Cummings Skyway to Rte 4
94050	Silicon Valley	N	Upgrade Rte 4 to full fwy from I-80 to Cummings Skyway (Phase 2)
94051	Silicon Valley	N	I-680 aux In from Diablo Rd to Sycamore Valley Rd (Segment 1) in Danville; from Crow Canyon Rd to Bollinger Canyon Rd (Segment 3) in San Ramon
94052	Silicon Valley	N	I-680 HOV Ins from Marina Vista I/C to North Main St (SB) and from Rte 242 NB to the Marina Vista I/C
94071	Silicon Valley	N	Replace Napa River (Maxwell) Bridge and widen to 4 Ins on Rte 121
94073	Silicon Valley	N	Construct new SB Rte 221 to SB Rte 29 flyover
94074	Silicon Valley	N	Widen Rte 12 from I-80 in Solano Co to Rte 29 in Napa Co to 4 Ins
94075	Silicon Valley	N	Rte 12/Rte 29/Airport I/C construction
94089	Silicon Valley	N	Reconstruct Doyle Dr from Golden Gate Bridge toll plaza to Broderik St
94100	Silicon Valley	N	US 101 aux Ins from Marsh Rd to Rte 92 (under construction)
94150	Silicon Valley	N	I-80/I-680/Rte 12 I/C improvements; includes connectors and aux Ins between Green Valley Rd and Cordelia truck weigh station (Phase 1)
94151	Sunol Gateway	C	Construct 4-In Jepson Parkway from Rte 12 to Leisure Town Rd
94152	Sunol Gateway	N	Widen Rte 12 from I-80 in Solano Co to Rte 29 in Napa Co to 4 Ins
94165	Eastshore-North	V	US 101 NB and SB HOV Ins from Rte 12 to Steele Ln in Santa Rosa
94504	Eastshore-North	V	Construct 4-In Airport from I-880/98th Ave I/C to Oakland International Airport and then to Bay Farm Island

Table 2.5-7: Transportation Projects with Potential Noise Impacts

<i>Project ID</i>	<i>Corridor</i>	<i>Investment*</i>	<i>Description</i>
94506	Eastshore-North	V	Widen Rte 84 to 6-ln parkway from I-880 to Paseo Padre and 4-ln parkway from Paseo Padre to Mission Blvd along the Historic Parkway alignment
94514	Eastshore-North	V	I-880/Rte 92 I/C improvements
94531	Eastshore-North	C	Widen Rte 4 to 6 mixed flow lns and 2 HOV lns from Bailey Rd to Rail Rd Ave with median wide enough to accommodate future BART
94540	Eastshore-North	C	Carquinez Bridge replacement: construct new suspension bridge west of existing bridges and modify Crockett I/C
94541	Eastshore-North	C	New Benicia-Martinez Bridge: construct new bridge span east of existing span (4 mixed-flow lns and 1 slow-vehicle ln)
94563	Eastshore-North	C	Widen US 101 for HOV lns (one in each direction) from Lucky Dr in Corte Madera to North San Pedro Rd in San Rafael
94575	Eastshore-North	N	Construct grade-separated I/C at Rte 29 and Redwood Rd/Trancas St
94632	Eastshore-North	N	Third St Light Rail project: light rail transit ext to Bayview Hunters Point
94644	North Bay E-W	N	Rte 92 WB slow vehicle ln between Rte 35 and I-280
94656	North Bay E-W	N	Devil's Slide bypass
94675	Solano Co-wide	C	Widen Rte 37 from Napa River Bridge to Rte 29 to 4-ln fwy
96022	Solano Co-wide	N	Rte 4 Bypass, Segment 1: construct a 6-ln facility from Rte 4 to Laurel Rd and a 4-ln facility from Laurel Rd I/C to Lone Tree Way
98103	Golden Gate	V	Construct aux ln on NB Rte 17 from Camden Ave to Hamilton Ave
98104	Golden Gate	V	Widen Rte 4 from RailRd Ave to Loveridge: I/C impvts and hwy widening
98115	Golden Gate	V	Widen Ygnacio Valley/Kirker Pass Rds to 6 lns from MI Blvd to Cowell Rd
98119	Golden Gate	V	Vasona Corridor light rail extension from downtown San Jose to Winchester Blvd in Campbell
98121	Golden Gate	V	Increase Caltrain service from San Jose to Gilroy
98127	Golden Gate	V	I-680/Alcosta Blvd I/C improvements
98130	Golden Gate	V	Widen Alhambra Ave from Rte 4 to McAlvey Dr to 4 lns
98132	Golden Gate	V	Widen and extend Bollinger Canyon Rd to 6 lns from Alcosta Blvd to Dougherty Rd
98133	Golden Gate	V	Widen Pacheco Blvd from Blum Rd to Arthur Rd from 2 lns to 4 lns
98134	Golden Gate	V	Widen Dougherty Rd to 6 lns from Red Willow to Contra Costa Co line
98135	Golden Gate	V	Construct Windermere Parkway: 4 lns from Bollinger Canyon Rd extension to East Branch
98136	Golden Gate	V	Construct East Branch as 4 lns from Bollinger Canyon Rd extension to Camino Tassajara
98140	Golden Gate	V	I-680 Sunol Grade SB HOV lns and aux ln from Rte 84 to Rte 237
98142	Golden Gate	V	Widen Rte 4 to 8 lns with HOV lns from Loveridge Rd to Somersville Rd
98147	Golden Gate	V	Widen US 101 from Rte 116 east to the Marin/Sonoma Co line to 6 lns
98153	Golden Gate	V	Reconstruct MacArthur Blvd onramp for access to I-80 EB and I-580 WB
98154	Golden Gate	V	Widen US 101 from Rte 37 to the Sonoma Co line to 6 lns
98175	Golden Gate	V	Widen Montague Expressway to 8 lns from I-680 to US 101

Table 2.5-7: Transportation Projects with Potential Noise Impacts

Project ID	Corridor	Investment*	Description
98176	Golden Gate	C	US 101 aux Ins from 3rd Ave to Millbrae and US 101/Peninsula Ave I/C reconstruction
98178	Golden Gate	C	US 101/Sir Francis Drake Blvd improvements
98183	Golden Gate	C	Widen US 101 for HOV Ins between Steele Ln and Windsor River Rd
98193	Golden Gate	C	Extend Panoramic Dr from North Concord BART Station to Willow Pass Rd
98194	Golden Gate	N	Extend Commerce Ave between Pine Creek and Waterworld Parkway to connect Willow Pass Rd with Rte 242/Concord Ave I/C
98196	Golden Gate	N	Rte 24 EB aux Ins from Gateway Blvd to Brookwood Rd/Moraga Way
98198	North Bay E-W	V	Vasco Rd safety and operational impvts in Contra Costa and Alameda Co
98204	North Bay E-W	C	Construct Rte 1 NB and SB Ins from Fassler Ave to Westport Dr in Pacifica
98207	North Bay E-W	C	I-880/BRdway-Jackson I/C improvements (Phase 1)
98211	Sonoma Co-wide	C	I-80 EB HOV In ext from Rte 4 to the Crockett I/C S of Carquinez Bridge
98221	Sonoma Co-wide	V	Rte 4 Bypass, Segment 2, Phase2: widen to 4 Ins from Lone Tree Way to Balfour Rd
98222	Sonoma Co-wide	V	Rte 4 Bypass, Segment 1: Rte 160 fwy-to-fwy connectors
98999	Sonoma Co-wide	N	Widen Rte 4 EB from 4 Ins to 8 Ins from Somersville Rd to Rte 160

*C=Committed, N=New Commitment, V=Vision Element

2.6 Geology and Seismicity

This chapter analyzes the potential effects of the Bay Area geology and seismicity on the transportation improvements in the proposed Transportation 2030 Plan. It generally indicates potential difficulties and hazards, such as underlying geologic materials or proximity to faults, and provides mitigation measures that may reduce those difficulties and hazards to a less-than-significant level.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

The physical setting describes existing geology in the study area, soils, faults, and other seismic and geologic hazards.

Geology

California is divided into 11 natural regions, referred to as geomorphic provinces, based on similar physical characteristics such as relief, landforms, and geology. The Bay Area is located primarily within the Coast Range geomorphic province, with portions of Contra Costa and Solano Counties extending into the Great Valley geomorphic province.

Coast Range

The Coast Range geomorphic province extends 400 miles along the Pacific Coast, from Oregon south into Southern California. Independent and discontinuous northwest-trending mountain ranges, ridges, and intervening valleys are distinguishing features of the Coast Range geomorphic province and generally characterize the geologic setting of the San Francisco Bay region. San Francisco Bay, which was formed within a shallow, regional structural depression, is the predominant feature, separating smaller northern and southern mountain ranges. In the southern Bay Area, the Santa Cruz Mountains border San Francisco Bay on the west, while the Berkeley Hills, an extension of the Diablo Range, are to the east. Mount Diablo marks the northern end of the Diablo Range, which stretches 130 miles southward to the Kettlemen Hills at the cusp of the San Joaquin Valley. The broad, low-relief Santa Clara and San Benito Valleys lie between the Santa Cruz Mountains and the Diablo Range. In the North Bay, the rugged, mountainous character of the Marin Peninsula is dominated by Mount Tamalpais (elevation 2,604 feet above sea level).

Much of the Coast Range province is composed of marine sedimentary and volcanic rocks that form the Franciscan Assemblage, located east of the San Andreas fault. The Franciscan Assemblage in this region of California is Jurassic- to Cretaceous-age (approximately 65 to 150 million years old) and consists primarily of greenstone (altered volcanic rocks), basalt, chert (ancient silica-rich ocean deposits), and sandstone that originated as ancient sea floor sediments. The region west of the San Andreas fault is underlain by a mass of basement rock known as the

“Salinian Block.” This block contains igneous rocks,¹ Tertiary-age (up to 65 million years old) marine sandstone, and various metamorphic rocks² believed to have originated some 350 miles to the south. The Salinian Block has been moving northward along the west side of the San Andreas fault and associated rocks can be found as far north as Point Arena.

Marginal lands surrounding San Francisco Bay are generally alluvial plains of low relief that slope gently bayward from the bordering uplands and foothills. The alluvial plains that comprise the Bay margin are composed of Quaternary-age (up to 2 million years old) alluvial sediments consisting of unconsolidated stream and basin deposits. These alluvial plains terminate bayward at the tidal marshlands that surround the Bay. Marshlands are composed of intertidal deposits, including the fine-grained plastic clay known as “Bay Mud,” which, in some areas, underlies artificial fills. San Francisco Bay is originally believed to have encompassed 700 square miles, although dredging and fill operations have reduced the Bay to approximately 400 square miles. Historic shoreline reclamation resulted in the placement of varying types of man-made artificial fill that overlie intertidal deposits.

Great Valley

Portions of Solano and Contra Costa Counties are located in the Great Valley geomorphic province, which consists of a large, nearly level inland alluvial plain 400 miles in length and averaging 50 miles in width. The topography of the Great Valley is flat, but slopes gently along its eastern margin (Sierra Nevada foothills) and western margin (Coast Ranges). Sediments in the Great Valley are gravels, sands, clays, and silts that originated largely from the Sierras, with sediments from the Coast Range contributing to a lesser extent. The sediments that compose the valley floor are thick, and in some areas extend as far as 10 miles below the surface. The Great Valley Sequence, a thick section of ancient sea floor sediments extending under the Great Valley, overlies the Coast Range Franciscan Assemblage along the valley’s western flank.

Soils

A wide variety of soils form the alluvial plains bordering San Francisco Bay. Soils in the Bay Area fall within four major classifications established by the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS). Depending on localized conditions, these general classifications are grouped into more specific soil types by location, climate, and slope. The Santa Clara valley and the alluvial plains surrounding San Francisco Bay are classified as deep alluvial plain and floodplain soils. These soils occupy the valleys in areas with higher rainfall and are considered productive when drained and fertilized. Soils closer to the Bay margin are generally dark-colored clays that have a high water table or are subject to overflow from flooding. Throughout California, Bay margin soils are typically used for wheat, barley, and native pastureland. Soils at the extreme edge of San Francisco Bay have a moderate to high content of

¹ Igneous rocks are those that form from molten magma, such as granite.

² Metamorphic rocks are sedimentary or volcanic rocks altered by prolonged heating and deformation.

soluble salts; these soils are referred to as “alkali soils” and can be used for salt grass pasture or for production of salt-tolerant crops. Soils in northern San Mateo County, the eastern portion of the city of San Francisco, and in Marin County are classified as residual soils and are characterized by moderate depth to underlying bedrock. Residual soils are present in natural grasslands where annual rainfall is considered moderately high; these grasslands constitute some of the best natural grazing lands in California.³

Seismicity

The San Francisco Bay Area contains both active and potentially active faults and is considered a region of high seismic activity.⁴ The 1997 Uniform Building Code (UBC), published by the International Conference of Building Officials, locates the entire Bay Area within Seismic Risk Zone 4. Areas within Zone 4 are expected to experience maximum ground shaking severity and damage in the event of an earthquake.⁵ The U.S. Geological Survey (USGS) Working Group on California Earthquake Probabilities has evaluated the probability of one or more earthquakes of Richter magnitude 6.7 or higher occurring in the San Francisco Bay Area, and concluded that there is currently a 62 percent likelihood of a magnitude 6.7 or higher earthquake occurring in the Bay Area by 2032.⁶

The San Andreas and the Hayward faults are the two principally active, strike-slip-type faults⁷ in the Bay Area and have experienced movement within the last 150 years. The San Andreas fault is a major structural feature in the region and forms a boundary between the North American and Pacific tectonic plates. Other principal faults capable of producing significant Bay Area ground shaking are listed in Table 2.6-1 and include the Calaveras fault, the Rodgers Creek fault, and the Concord–Green Valley faults, as shown on Figure 2.6-1. A major seismic event on any of these active faults could cause significant ground shaking and surface fault rupture, as was experienced during earthquakes in recent history, namely the 1868 Hayward earthquake, the 1906 San

³ Division of Agricultural Science, University of California, Generalized Soil Map of California, 1951.

⁴ An active fault is defined by the State of California as a fault that has had surface displacement within Holocene time (approximately the last 10,000 years). A potentially active fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not mean that faults lacking evidence of surface displacement are necessarily inactive. “Sufficiently active” is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments or branches (Hart, E. W., Fault-Rupture Hazard Zones in California: Alquist-Priolo Special Studies Zones Act of 1972 with Index to Special Studies Zones Maps, California Division of Mines and Geology, Special Publication 42, 1990, revised 1997).

⁵ Lindeburg, M., Seismic Design of Building Structures: A Professional’s Introduction to Earthquake Forces and Design Details, Professional Publications Inc., 1998.

⁶ U.S. Geological Society (USGS) Working Group on California Earthquake Probabilities (WG02), Earthquake Probabilities in the San Francisco Bay Region: 2003-2032 – A Summary of Findings, Open-File Report 03-214, 2003.

⁷ “Strike-slip” faults primarily exhibit displacement in a horizontal direction, but may have a vertical component. Right-lateral strike-slip movement of the San Andreas fault, for example, means that the western portion of the fault is slowly moving north while relative motion of the eastern side is to the south.

Francisco earthquake, and the 1989 Loma Prieta earthquake. The estimated magnitudes (moment) identified in Table 2.6-1 represent *characteristic* earthquakes on particular faults.⁸

Table 2.6-1: Active Faults In The MTC Study Area

<i>Fault</i>	<i>Recency of Movement</i>	<i>Historical Seismicity</i> ²	<i>Maximum Moment Magnitude Earthquake (Mw)</i> ³
Hayward	1868 Holocene	M6.8, 1868 Many <M4.5	7.1
San Andreas	1989 Holocene	M7.1, 1989 M8.25, 1906 M7.0, 1838 Many <M6	7.9
Rodgers Creek	1969 Holocene	M6.7, 1898 M5.6, 5.7, 1969	7.0
Concord-Green Valley	1955 Holocene	Historic active creep	6.9
Marsh Creek-Greenville	1980 Holocene	M5.6 1980	6.9
San Gregorio-Hosgri	Holocene; Late Quaternary	Many M3-6.4	7.3
West Napa	2000 Holocene	M5.2 2000	6.5
Maacama	Holocene	Historic active creep	7.1
Calaveras	1990 Holocene	M5.6-M6.4, 1861 M4 to M4.5 swarms 1970, 1990	6.8

¹ See text footnote #4 for definition of active faults.

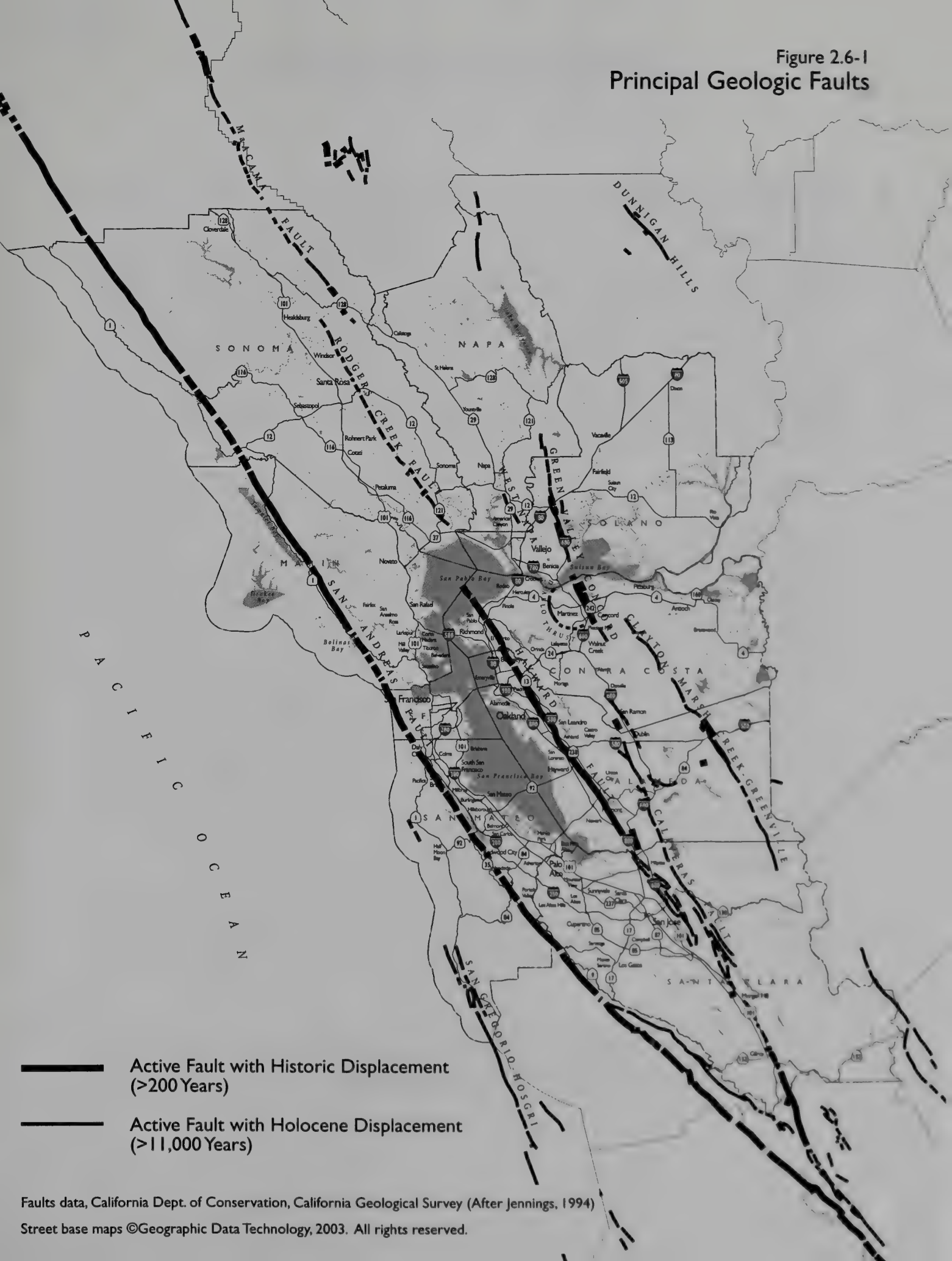
² Richter magnitude (M) and year for recent and/or large events. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave.

³ The maximum moment magnitude earthquake (Mw), derived from the joint CGS/USGS Probabilistic Seismic Hazard Assessment for the State of California, 1996. (CGS OFR 96-08 and USGS OFR 96-706).

Sources: CGS, 1996; Hart, 1997; Jennings, 1997; Peterson, 1996; United States Geological Survey and University of California Berkeley, Northern California Earthquake Data Center, <http://quake.geo.berkeley.edu/>, accessed May 2004

⁸ Moment magnitude is related to the physical size of a fault rupture and movement across a fault, while Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event. The concept of "characteristic" earthquake means that we can anticipate, with reasonable certainty, the actual damaging earthquakes [the size of the earthquakes] that can occur on a fault.

Figure 2.6-1
Principal Geologic Faults



Geologic and Seismic Hazards

Surface Fault Rupture

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude and nature of fault rupture can vary for different faults or even along different strands of the same fault. Future faulting is generally expected along different segments of faults with recent activity.⁹ Structures, transportation facilities, and utility systems crossing fault traces are at risk during a major earthquake due to ground rupture caused by differential lateral and vertical movement on opposite sides of the active fault trace. Lateral displacement may range from a few inches to over 20 feet, as occurred in the 1906 San Francisco earthquake. Thrust faults as well as faults with strike-slip movement can have a vertical displacement component that can total several feet.

However, the exception to obvious surface displacement is the "blind-thrust" fault. The Mt. Diablo blind-thrust fault, for example, is a newly recognized earthquake source for the San Francisco Bay Region. It has been mapped on the western base of Mt. Diablo on the east side of the San Ramon Valley. The USGS Working Group on California Earthquake Probabilities recommended that this particular thrust fault be considered in their seismic probability calculations. This fault is considered a "blind thrust" because it does not exhibit a surficial expression of displacement. The Mt. Diablo thrust fault slips at a long term rate of about 3 millimeters/year, but has not been zoned as an active fault under the Alquist-Priolo Act (see description of Act in Regulatory Setting).¹⁰

Although multiple active and potentially active faults are located within the Bay Area, ground rupture is most likely to occur along active faults zoned as Earthquake Fault Zones under mandate of the Alquist-Priolo Act. It is important to note that surface fault rupture is not necessarily restricted to the area within an Alquist-Priolo Zone. Additionally, ground rupture is possible on both active and potentially active faults not zoned as Earthquake Fault Zones, although these faults are considered less susceptible to ground rupture hazards than the principally active faults listed in Table 2.6-1.

Ground Shaking

Strong ground movement from a major earthquake could affect the Bay Area during the next 30 years. Ground shaking may affect areas hundreds of miles distant from the earthquake's epicenter. The intensity of ground movement during an earthquake can vary depending on the overall magnitude, distance from the fault, focus of earthquake energy, and type of geologic material.

⁹ California Geological Survey, Guidelines for Evaluating and Mitigation Seismic Hazards, CGS Special Publication 117, 1997.

¹⁰ USGS, 2003.

Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill. The composition of underlying materials in areas located relatively distant from faults can intensify ground shaking. For example, portions of the Bay Area that experienced the worst structural damage due to the Loma Prieta earthquake were not those closest to the fault, but rather those with soils that amplified the effects of ground shaking. The Modified Mercalli (MM) intensity scale (see Table 2.6-2) is a common measure of earthquake effects due to ground shaking intensity. The MM values for intensity range from I (earthquake not felt) to XII (damage nearly total), and intensities ranging from IV to X could cause moderate to significant structural damage.¹¹

Areas most susceptible to intense ground shaking are those areas located closest to the earthquake-generating fault, and areas underlain by thick, loosely unconsolidated, saturated sediments, particularly soft, saturated Bay Muds and artificial fill along the tidal margins of San Francisco Bay.

Liquefaction

Liquefaction is a phenomenon whereby unconsolidated and/or near saturated soils lose cohesion and are converted to a fluid state as a result of severe vibration. The relatively rapid loss of soil shear strength during strong earthquake shaking results in the temporary fluid-like behavior of the soil. Soil liquefaction causes ground failure that can damage roads, airport runways, pipelines, underground cables, and buildings with shallow foundations. Liquefaction can occur in areas characterized by water-saturated, cohesionless, granular materials at shallow depths, or in saturated unconsolidated or artificial fill sediments located in reclaimed areas along the margin of San Francisco Bay. Liquefaction potential is highest in areas underlain by a shallow groundwater and Bay fills, Bay Mud, and unconsolidated alluvium. Figure 2.6-2 illustrates liquefaction susceptibility in the San Francisco Bay Area.

Landslide Hazards

A landslide is a mass of rock, soil, and debris displaced downslope by sliding, flowing, or falling. The susceptibility of land (slope) failure is dependent on slope and geologic characteristics, as well as the amount of rainfall and the nature of excavation or seismic activities. Areas with steep slopes and downslope creep of surface materials are most susceptible to landsliding.

Landslides are least likely in areas of low relief, such as topographically low alluvial fans and at the margin of San Francisco Bay. Figure 2.6-3 illustrates areas that have historically been affected by landslide activity.

¹¹ The damage level represents the estimated overall level of damage that will occur for various MM intensity levels. The damage, however, will not be uniform. Some structures will experience substantially more damage than this overall level, and others will experience substantially less damage. Not all structures perform identically in an earthquake. The age, material, type, method of construction, size, and shape of a structure all affect its performance (Association of Bay Area Governments (ABAG), *The San Francisco Bay Area -- On Shaky Ground*, Supplement Report (Excerpts), 1998.).

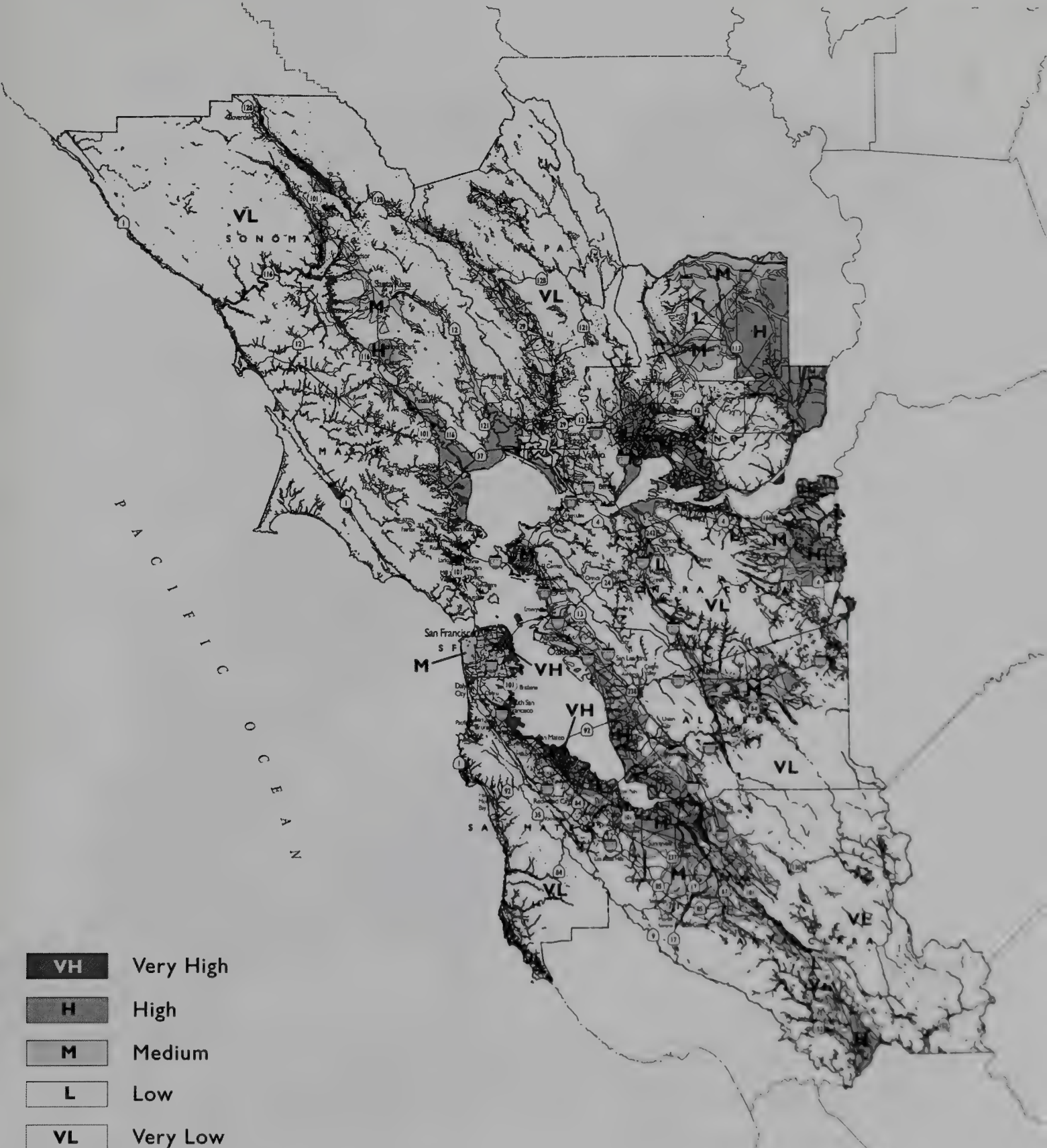
Table 2.6-2: Modified Mercalli Intensity Scale

	<i>Intensity Description</i>	<i>Average Peak Acceleration¹</i>
I	Not felt except by a very few persons under especially favorable circumstances.	<0.0017g
II	Felt only by a few persons at rest, especially on upper floors on buildings. Delicately suspended objects may swing.	<0.014g
III	Felt quite noticeably indoors, especially on upper floors of buildings, but many persons do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration similar to a passing of a truck. Duration estimated.	<0.014g
IV	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	0.014g-0.039g
V	Felt by nearly everyone, many awakened. Some dishes, windows, broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.	0.039g-0.092g
VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.	0.092g-0.18g
VII	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.	0.18g-0.34g
VII I	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Persons driving motor cars disturbed.	0.34g-0.65g
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	0.65g-1.24g
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes.	> 1.24g
XI	Few, if any, masonry structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	> 1.24g
XII	Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	> 1.24g

¹ g (gravity)= 980 centimeters per second squared. Acceleration of 1.0 g is equivalent to a car traveling 328 feet from rest in 4.5 seconds.

Source: Bolt, 1988, and California Geological Survey, 2003

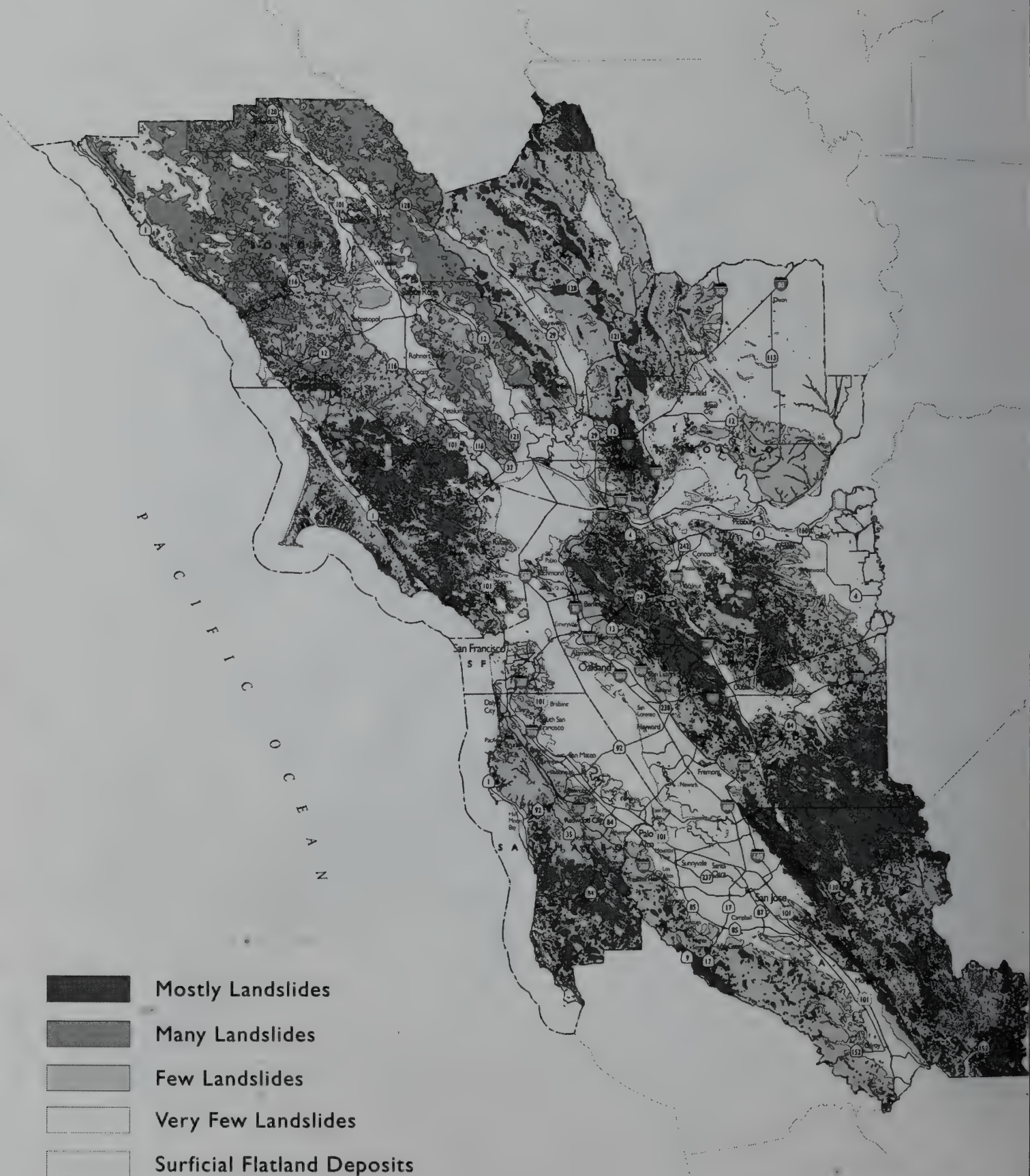
Figure 2.6-2
Areas Susceptible to Liquefaction in the Bay Area



Liquefaction data, USGS, 2000.

Street base maps ©Geographic Data Technology, 2003. All rights reserved.

Figure 2.6-3
Areas Susceptible to Landslides



Landslides data, USGS, 1997.

Street base maps ©Geographic Data Technology, 2003. All rights reserved.

Expansive Soils

Expansive soils possess a “shrink-swell” characteristic. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may occur incrementally over a long period of time, usually as a result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Soils with high clay content, such as the Bay Muds located on the southern margin of San Francisco Bay, are highly expansive.

Soil Erosion

Soil erosion is the process whereby soil materials are worn away and transported to another area, either by wind or water. Rates of erosion can vary depending on soil material and structure, building placement, and human activity. The potential for soil erosion is variable throughout the project area. Soil with high amounts of silt can be easily eroded, while sandy soils are less susceptible to erosion. Excessive soil erosion can eventually damage building foundations, roadways, and dam embankments. Erosion is most likely on sloped areas with exposed soil, especially where unnatural slopes are created by cut-and-fill activities. Soil erosion rates can therefore be higher during the construction phase. Typically, the soil erosion potential is reduced once the soil is graded and covered with concrete, structures, or asphalt.

Settlement

Settlement is the depression of the bearing soil when a load, such as that of a building or new fill material, is placed upon it. Soils tend to settle at different rates and by varying amounts, depending on the load weight, which is a phenomenon referred to as differential settlement. Areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or the “Bay Mud” present in the marshland on the San Francisco Bay margin.

Earthquake-Induced Settlement

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid compaction and settling of subsurface materials (particularly loose, noncompacted, and variable sandy sediments) due to the rearrangement of soil particles during prolonged ground shaking. Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or Bay Mud.

Tsunamis

Tsunamis (seismic sea waves) are long period waves that are caused by underwater seismic disturbances, volcanic eruptions, or submerged landslides. Tsunamis affecting the Bay Area would most likely originate west of the Bay, within the Pacific Rim. During the period between 1854 and 1964, approximately 21 tsunamis were recorded at the Fort Point tide gauge in San

Francisco. The largest wave height recorded was 7.4 feet resulting from the 1964 Alaska earthquake. It is estimated that a tsunami with a wave height or run up to 20 feet could pass through the Golden Gate every 200 years. A ten-foot wave is estimated to occur every 90 years. A tsunami of this height would most likely produce little inundation damage except for beaches and other low-lying coastal areas.

Areas that are highly susceptible to tsunami inundation tend to be located in low-lying coastal areas such as tidal flats, marshlands, and former bay margins that have been artificially filled. Highway traffic in those low-lying areas may be disrupted due to inundation or damage caused by the tsunami.

REGULATORY SETTING

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act), signed into law in December 1972, requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near fault traces to reduce the hazard of fault rupture and to prohibit the location of most structures for human occupancy across these traces. Cities and counties must regulate certain development projects within the zones, for example, by withholding permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement.¹² Surface fault rupture is not necessarily restricted to the area within an Alquist-Priolo Zone.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 was established to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design. Although Seismic Hazards Maps have been released for San Francisco County and portions of the East and South Bay, the California Geological Survey has not yet completed Seismic Hazards Maps covering the entire Bay Area.

¹² Hart, 1997.

California Department of Transportation

Jurisdiction of the California Department of Transportation (Caltrans) includes state and interstate routes within California. Any work within the right-of-way of a federal or state transportation corridor is subject to Caltrans regulations governing allowable actions and modifications to the right-of-way. Caltrans issues permits to allow encroachment on land within its jurisdiction to ensure that the encroachment is compatible with the primary uses of the State Highway System, ensure safety, and to protect the state's investment in the highway facility. The encroachment permit requirement applies to persons, corporations, cities, counties, utilities, and other government agencies. A permit is required for specific activities, including opening or excavating a state highway for any purpose, constructing and maintaining road approaches or connections, grading within right-of-way on any state highway, or planting or tampering with vegetation growing along any state highway. The encroachment permit application requirements relating to geology, seismicity, and soils include information on road cuts, size of excavations, engineering and grading cross-sections, hydraulic calculations, and the location of mineral resources approved under the Surface Mining Area Reclamation Act.

County and City Controls

City and county governments develop, as part of a general plan, safety and seismic elements that identify goals, objectives, and implementing actions to minimize the loss of life, property damage, and disruption of goods and services from disasters, including floods, fires, nonseismic geologic hazards, and earthquakes. General plans can provide policies and establish the basis for ordinances to ensure acceptable protection of people and structures from risks associated with these hazards. Ordinances can include those addressing unreinforced masonry construction, erosion, or grading

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

This EIR uses the following geology and seismicity criteria to assess whether improvements in the proposed Transportation 2030 Plan would have a significant adverse effect.

- **Criterion 1: Expose people or structures to potential damaging geologic forces.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects increase exposure of people or structures to the risk of property loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
 - Strong seismic ground shaking
 - Seismic-related ground failure, including liquefaction
 - Landslides

- **Criterion 2: Substantial soil erosion or topsoil loss.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects result in substantial soil erosion or topsoil loss.
- **Criterion 3: Located on expansive soils.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects are located on expansive soils (high shrink-swell potential), as defined in Table 18-1-B of the Uniform Building Code, or on weak, unconsolidated soils creating substantial risks to life or property.

METHOD OF ANALYSIS

Impacts are determined for the proposed Transportation 2030 Plan as a whole and for specific projects involving new construction. Projects which do not include the construction of infrastructure, such as new bus line schedules or routes, local road maintenance, wheelchair curb ramps, or traffic light coordination would utilize existing transportation infrastructure or would result in negligible alterations to these facilities. In contrast, other projects in the proposed Transportation 2030 Plan would include the construction or expansion of elevated interchanges, roadways, bridges, tunnels, transit buildings, and parking lots. Some of these projects may be susceptible to particular seismic hazards such as strong ground shaking due to their location near active faults. The analysis is based upon generalized geology maps which provide broad information on the locations of active faults in the San Francisco Bay Area and areas of liquefaction or landslide potential. Due to the scale of these maps, this analysis provides a summary of generalized potential impacts associated with seismic hazards present in the San Francisco Bay Area and does not satisfy the need for site-specific surveys for individual projects.

SUMMARY OF IMPACTS

The entire Bay Area is susceptible to impacts associated with seismic events on one of the several active or potentially active faults in the region. These faults could potentially generate seismic ground shaking capable of damaging existing and proposed transportation facilities. As such, new transportation facilities would be exposed to both the direct and indirect effects of earthquakes. Potential effects from surface fault rupture and severe ground shaking could cause catastrophic damage to transportation infrastructure, particularly elevated structures. Geologic hazard exposure during construction would be considered short-term, while long term risk of hazards and seismic impacts would be expected to continue throughout the life of the project or facility. The proposed Transportation 2030 Plan includes the vast majority of the seismic retrofit and strengthening work for Bay Area transportation facilities, particularly the Bay Bridge. New transportation facility designs would make use of the latest information available on seismic hazards to structures.

Direct Impacts

Direct impacts associated with earthquakes include construction of new transportation facilities which would be exposed to fault rupture, ground shaking, liquefaction and potential tsunamis, and earthquake-induced landslides. Over time, unconsolidated soils can also pose problems to transportation facilities.

Short Term Impacts

Short-term impacts are those that could potentially occur during construction of transportation improvements. Soil erosion hazards could occur during preliminary stages of construction, especially during initial site grading. In addition to causing sedimentation problems in storm drain systems, rapid water erosion could remove topsoil, cause deeply incised gullies on slopes, or undermine engineered soils beneath foundations and paved surfaces.

Long Term Impacts

Geologic hazards present long term risks to the transportation network, despite current engineering technology. Seismic hazards, such as surface fault rupture, ground-shaking, earthquake-induced landslides, liquefaction, and tsunamis, are considered significant and unavoidable, given California's seismicity. Erosion and soil hazards (i.e., differential settlement, expansive soils, and landslides) are considered significant, but mitigable potential impacts.

Indirect / Cumulative Impacts

The projected population increase in the Bay Area will result in increased travel and associated increased risk of exposure of people and property to the risks of strong seismic shaking, fault rupture, seismically-induced ground failure and slope instability on both existing and proposed transportation infrastructure.

Beneficial Impacts

The proposed Transportation 2030 Plan includes seismic strengthening of a number of existing bridges, interchanges, and overpasses throughout the Bay Area. In addition, all new transportation facilities, including potentially vulnerable elevated structures such as BART tracks, interchanges, and bridges, will be designed to current seismic standards that were updated as a result of information acquired from the Loma Prieta and Northridge earthquakes. It is expected that as a result of these efforts, implementation of the Transportation 2030 Plan will improve the survivability of the Bay Area transportation system, reduce the risk to travelers using existing retrofitted and new transportation facilities, and reduce the overall magnitude and extent of social and economic disruption in the event of a major seismic event.

IMPACTS & MITIGATION MEASURES

Impact

- 2.6-1 Seismic events could damage existing and proposed transportation infrastructure through surface rupture, ground shaking, liquefaction, landslides and tsunamis (*Significant, unavoidable*).

Some of the proposed transportation improvement projects would be located within Alquist-Priolo Earthquake Fault Zones and would therefore be susceptible to fault rupture if an earthquake were to occur on the particular fault segment. The occurrence and severity of fault rupture depends on, among other factors, the location of the fault trace, magnitude of the seismic event, and underlying geology. Damage caused by surface fault rupture could include displaced pavement, rupture to underground utilities, or damage to foundations.

Table 2.6-3 (at the end of this chapter) provides examples of projects susceptible to surface fault rupture hazards. Projects susceptible to severe fault rupture are generally those very close to one of the 11 major active earthquake-generating faults depicted on Figure 2.6-1. Potential for structural damage injury or of life is related to the severity of the earthquake or type of construction (aerial, at-grade, tunnels, etc.). Modern design techniques focus on the preservation of life and lessening the risk of injury. These are projects with the potential to be adversely affected by lateral or vertical displacement during an earthquake of considerable magnitude.

Ground Shaking. Proposed transportation improvements susceptible to intense seismic ground shaking are also those areas in close proximity to the causative faults, and those areas underlain by thick, unconsolidated deposits, particularly soft, saturated Bay Mud and artificial fill near the shoreline of the Bay. These soft, loosely consolidated, saturated sediments have the tendency to amplify ground shaking and cause structural damage or result in collapse of older structures, especially those that have not undergone seismic retrofitting.

Liquefaction and Earthquake-Induced Landslides. The California Geological Survey, pursuant to the Seismic Hazards Act of 1990, has begun preparing seismic hazard maps of the San Francisco Bay Area. These maps identify areas highly susceptible to liquefaction or earthquake-induced landslides. At this time, only a portion of the Bay Area has been mapped. Therefore, earlier mapping completed by the United States Geological Survey is utilized in order to uniformly assess areas prone to liquefaction or landslides for proposed transportation improvements in the Transportation 2030 Plan.

The potential for transportation projects to be significantly affected by earthquake-induced landslides is higher in hilly or mountainous areas, especially areas with historically active or inactive landslides and unstable slopes. Landslide hazards are prevalent in the Santa Cruz Mountains, the Diablo Range, and areas of Marin County. Certain geologic formations, such as loosely consolidated sedimentary deposits, are more susceptible to landslides in the event of an earthquake. Saturated slopes in close proximity to the causative fault can also increase the likelihood of landslide hazards. Landslide-prone areas are depicted in Figure 2.6-2, and project located within areas most likely to susceptible to landslides are listed in Table 2.6-3.

The potential for projects to be significantly affected by liquefaction is higher in areas underlain by shallow groundwater and unconsolidated, coarse-grained soils, such as sandy artificial fill materials or dredge spoils overlying Bay Mud. Areas historically affected by liquefaction are depicted in Figure 2.6-3, and projects located in areas likely to be susceptible to very high or high levels of liquefaction are listed in Table 2.6-3.

Tsunamis. Tsunamis could occur along the Pacific Ocean shoreline and along the Bay shoreline resulting in temporarily high water levels and possible property damage, erosion, injury and loss of life and structural damage.

Mitigation Measures

2.6(a) Project implementation agencies shall undertake project specific review of seismic impacts as part of project specific environmental review. For any identified impacts, appropriate mitigation measures shall be identified to minimize or eliminate any significant impacts on water resources. The following mitigation measures shall be included in project-level analysis as appropriate for proposed new transportation improvements. The project proponent or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures outlined below prior to construction.

- The seismic design of projects shall consider seismicity of the site, soil response at the site, and dynamic characteristics of the structure, in compliance with the Uniform Building Code and Caltrans standards for construction, or other more stringent standards, as applicable.
- Implementing agencies shall ensure that geotechnical analyses are conducted within construction areas to ascertain soil types and local faulting prior to preparation of project designs.
- For projects location within Alquist-Priolo Earthquake Fault Zones, recommendations for the mitigation and reduction of hazards shall be prepared in accordance with California Geological Survey Guidelines for Evaluation the Hazard of Earthquake Fault Rupture.¹³
- Implementing agencies shall ensure that projects avoid or stabilize landslide areas and potentially unstable slopes wherever feasible.
- For projects located within liquefaction or earthquake-induced landslide Seismic Hazard Zones, recommendations for the mitigation and reduction of hazards shall be prepared in accordance with California Geological Survey Guidelines for Evaluating and Mitigating Seismic Hazards.¹⁴

¹³ CGS, 2002.

¹⁴ CGS, 1997.

- Consider tsunami inundation risks when designing projects adjacent to the Bay, and/or Pacific Ocean. Precautionary measures such as specifying final roadbed elevations greater than the expected height of a tsunami with a given return frequency would be effective.

Implementation of the above mitigation measures would reduce seismic hazards from new transportation facilities. Although most new structures would be constructed to survive a strong earthquake without collapse, it is likely that some segments of roads and transit facilities would be damaged. The damage from a major seismic event could be significant.

Impact

- 2.6-2 Highway and rail construction, under the proposed Transportation 2030 Plan, could require significant earthwork and road cuts, which could increase short-term and long term soil erosion potential and slope failure. (*Significant, mitigable*)**

Road cuts could expose soils to erosion over the life of the project, creating potential landslide and falling rock hazards. Engineered roadways can be undercut over time by uncontrolled stormwater drainage. Projects on steep grades or those requiring substantial amounts of cut and fill would pose the greatest potential for slides and erosion impacts. Engineered soils could also erode due to poor construction methods and design features or lack of maintenance. Use of appropriate construction methods, earthwork design, and road cut design could reduce this potential impact to a less-than-significant level.

Mitigation Measures

2.6(b) Implementing agencies shall ensure that projects employ Best Management Practices to reduce soil erosion by water and wind. These could include temporary cover of exposed, engineered slopes, or silt fencing. All construction activities and design criteria shall comply with applicable codes and requirements of the 1997 Uniform Building Code with California additions (Title 22), and applicable Caltrans construction and grading ordinances.

2.6(c) Implementing agencies shall ensure that project designs provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion. Design features shall include measures to reduce erosion from stormwater. Road cuts shall be designed to maximize the potential for revegetation.

These mitigation measures would be expected to reduce this potentially significant risk of soil erosion and/or slope failure to a less-than-significant level if incorporated by project sponsors.

Impact

- 2.6-3 Projects built on highly compressible or expansive soils could become damaged and weakened over time. (*Significant, mitigable*)**

Inadequate soil and foundation engineering on weak or unconsolidated soils (such as poorly engineered artificial fill) could cause soils and overlying structures to settle unevenly, thereby weakening structural facilities. Low-strength soils subjected to settlement could, over time, cause damage to underground utilities such as pipelines and tunnels. Structures placed directly on expansive soils could be subject to seasonal shrink/swell effects, causing structural damage and possibly damage to underground utilities.

Mitigation Measures

2.6(d) Implementing agencies shall ensure that geotechnical investigations be conducted by qualified professionals (registered civil and geotechnical engineers, registered engineering geologists) to identify the potential for differential settlement and expansive soils. Recommended corrective measures, such as structural reinforcement and replacing soil with engineered fill, shall be incorporated into project designs. These mitigation measures would be expected to reduce the risk of exposure to highly compressible or expansive soils to a less-than-significant level if incorporated by project sponsors.

Cumulative Impact

2.6-4 The projected population increase in the Bay Area will result in increased travel on all modes of transportation. This would result in an increased risk of exposure of people and property to the potentially damaging effects of strong seismic shaking, fault rupture, seismically-induced ground failure and slope instability. (*Significant, mitigable*)

Cumulative population growth over the next 25 years would result in increased population using existing and proposed transportation infrastructure. The potential for structural failures, injuries and loss of life would be greatest on raised structures, on earthquake susceptible soils and within fault zones. However, this increase in risk is partially offset by safety and operational improvements and other transportation infrastructure improvements included in the Transportation 2030 Plan and described in the Summary of Impacts section (above). The cumulative impacts from the Transportation 2030 Plan are essentially the same as the direct impacts outlined above.

Mitigation Measures

Since the cumulative impacts from the Transportation 2030 Plan are essentially the same as the direct and short-term impacts (exposing travelers to geologic hazards), the mitigation measures for this impact would be the same as described in measure 2.6(a). These mitigation measures would be expected to reduce this potentially significant cumulative impact to a less-than-significant level.

Table 2.6-3: Projects Susceptible to Surface Fault Rupture, Landslides, or Liquefaction

Project ID	Corridor	Investment*	Description	Hazard		
				SFR ^a	LDS ^b	LIQ ^c
98203	Peninsula	N	Study Rte I in Half Moon Bay			X
21613	Peninsula	N	Rte 92 improvements from San Mateo Bridge to I-280		X	X
21619	Peninsula	N	Caltrain express tracks	X	X	X
22282	Peninsula	N	US-101 capacity imprvts near SR 92			X
94644	Peninsula	V	Rte 92 W slow vehicle lane		X	
21604	Peninsula	V	US 101 aux lanes from Sierra Pt to San Francisco County		X	X
21610	Peninsula	V	US 101 aux lanes from San Bruno Ave to Grand Ave			X
21892	Peninsula	V	Widen Rte 84			X
22227	Peninsula	V	Geneva Ave Extension: Bayshore Blvd to US 101			X
22228	Peninsula	V	Lagoon Way Extension			X
22229	Peninsula	V	Sierra Point Parkway/US 101 interchange		X	
22271	Peninsula	V	Widen Skyline Blvd (Rte 35) from I-280 to Sneath Lane to 4-lanes	X		
22279	Peninsula	V	US 101/Produce Ave interchange project			X
22724	Peninsula	V	Rte 92imprvts: San Mateo Bridge to I-280		X	X
22751	Peninsula	V	Rte I in Half Moon Bay operational & safety improvements			X
22800	Peninsula	V	BART extension from Santa Clara Co			X
22655	Golden Gate	C	Widen US 101 for HOV lanes Rohnert Park Expressway to Santa Rosa Ave		X	X
98147	Golden Gate	N	Widen US 101 from Rte 116 E to Marin/Sonoma County to 6 lanes, upgrade Petaluma Bridge	X	X	X
98154	Golden Gate	N	Widen US 101 from Rte 37 to Sonoma County to 6 lanes	X	X	X
98183	Golden Gate	N	Widen US 101 for HOV lanes Steele Ln to Windsor River Rd	X	X	
21902	Golden Gate	N	Widen US 101 for HOV lanes from Old Redwood Hwy to Rohnert Park Expwy	X		X
21030	Golden Gate	V	I-580/US 101 Interchange improvements			X

Table 2.6-3: Projects Susceptible to Surface Fault Rupture, Landslides, or Liquefaction

Project ID	Corridor	Investment*	Description	Hazard		
				SFR ^a	LDS ^b	LIQ ^c
21317	Golden Gate	V	Widen Rte 1 from US 101 to Flamingo Rd			X
22419	Golden Gate	V	Hwy 101 HOV lanes from Lucky Dr to N San Pedro Rd		X	X
22513	Golden Gate	V	SMART Commuter Rail		X	X
22002	Transbay Bay Bridge	N	Extend HOV lane on N I-880 from existing terminus at Bay Bridge approach to Maritime on-ramp			X
22626	North Bay East-West	C	Rte 29/Rt 37 interchange improvements	X		X
22899	North Bay East-West	C	Improve Rte 12 between Suisun City and Rio Vista			X
94073	North Bay East-West	N	Construct new S Rte 221 to S Rte 29 flyover	X		
94074	North Bay East-West	N	Widen Rte 12 (Jameson Canyon) from I-80 in Solano County to Rte 29 in Napa County to 4 lanes			X
94152	North Bay East-West	N	Widen Rte 12 (Jameson Canyon) from I-80 in Solano County to Rte 29 in Napa County to 4 lanes	X	X	
22746	Napa Valley	V	1st St overcross widening			X
22192	Sonoma Co-wide	V	Airport Blvd widening			X
22193	Sonoma Co-wide	V	Forestville bypass on Rte 116			X
22207	Sonoma	V	Extend Farmers Lane as a 3-or 4-lane arterial from Bellevue Ave to Rte 12	X		
98222	Delta	N	Rte 4 bypass, widen Rte 160 N freeway-to-freeway connectors			X
98999	Delta	N	Widen Rte 4 E to 8 lanes from Somersville Rd to SR 160	X		X
22604	Delta	V	Vasco Rd widening to 4 lanes from Brentwood to Alameda County		X	X
22605	Delta	V	SR4 Bypass, widen segments 2 & 3 and upgrade to full freeway			X
22668	Delta	V	HOV Lanes on I-680		X	X
22981	Delta	V	SR 4 Widening Marsh Creek Rd to San Joaquin County			X

Table 2.6-3: Projects Susceptible to Surface Fault Rupture, Landslides, or Liquefaction

Project ID	Corridor	Investment*	Description	Hazard		
				SFR ^a	LDS ^b	LIQ ^c
98140	Sunol Gateway	C	I-680 Sunol Grade S HOV lanes and aux lane Rte 84 to Rte 237	X	X	X
98139	Sunol Gateway	N	ACE station/track improvements	X	X	X
22897	Sunol Gateway	N	Widen I-680 N for HOV lane Rte 84 to Calaveras Blvd	X	X	X
22624	Eastshore-North	C	Construct continuous 4-lane Jepson Parkway Reliever Route			X
22629	Eastshore-North	C	New Vallejo Ferry Terminal Intermodal Facility			X
22632	Eastshore-North	C	American Canyon Rd overpass expansion		X	
22986	Eastshore-North	C	Widen and improve Broadway between Hwy 37 to Mini Dr			X
94151	Eastshore-North	N	Jepson Parkway from Rte 12 to Leisure Town Rd			X
21209	Eastshore-North	N	Hercules Transit Center relocation			X
21210	Eastshore-North	N	Capitol Corridor train station in Hercules			X
21807	Eastshore-North	N	I-80/680/12 Interchange			X
22038	Eastshore-North	N	SFOBB Toll Plaza HOV Bypass Lanes			X
22700	Eastshore-North	N	Construct parallel corridor N of I-80 from Red Top Rd to Abernathy Rd	X		X
22898	Eastshore-North	N	Widen I-80 W of Meridian Rd to W of Kidwell Rd			X
21101	Eastshore-South	N	Tinker Ave extensions Webster to 5th			X
21185	Eastshore-South	N	Eden Rd extension			X
22764	Eastshore-South	N	I-880 improvements Hegenberger Rd and 66th Ave			X
22106	Eastshore-South	V	Whitesell St Extension			X
22660	Eastshore-South	V	I-880 widening between Whipple and Jackson			X

Part Two: Settings, Impacts, and Mitigation Measures
Chapter 2.6: Geology and Seismicity

Table 2.6-3: Projects Susceptible to Surface Fault Rupture, Landslides, or Liquefaction

Project ID	Corridor	Investment*	Description	Hazard		
				SFR ^a	LDS ^b	LIQ ^c
22670	Eastshore-South	V	Extend I-880 HOV lanes N of San Leandro and Oakland			X
22671	Eastshore-South	V	S I-880 to W SR 84 direct HOV connector			X
22353	Diablo	C	I-680 southbound HOV gap closure			X
98130	Diablo	N	Widen Alhambra Ave from Rte 4 to McAlvey Dr		X	X
98133	Diablo	N	Widen Pacheco Blvd from Blum Rd to Arthur Rd		X	
98194	Diablo	N	Extend Commerce Ave to Willow Pass Rd			X
98196	Diablo	N	Rte 24 E aux lanes		X	
21206	Diablo	N	Caldecott Tunnel fourth bore		X	
22602	Diablo	N	Construct I-680 aux lanes from Sycamore Valley Rd to Crow Canyon Rd	X	X	X
22351	Diablo	V	I-680 N HOV Gap Closure			X
22614	Diablo	V	Martinez Intermodal Station			X
22965	Diablo	V	US 101 Mabury Rd/Taylor St interchange construction			X
22785	Tri-Valley	C	Construct I-580 E aux lane from 1st St to Vasco Rd	X		
22796	Tri-Valley	C	Construct 4 lane arterial connection between N. Canyons Parkway and Dublin Blvd			X
22776	Tri-Valley	N	Widen Rte 84 to 4 lanes from N of Pigeon Pass to Vineyard Ave, 4 or 6 lanes from Vineyard Ave to Jack London Blvd	X	X	X
22013	Tri-Valley	N	I-580 corridor improvements	X	X	X
22664	Tri-Valley	V	I-580 HOT lanes from Greenville Rd W to I-680	X	X	X
22666	Tri-Valley	V	Rte 84 HOT lanes in Tri-Valley	X	X	X
22991	Fremont-South Bay	C	Widen I-680 for HOV/HOT lanes from Rte 237 to Rte 84		X	X
21132	Fremont-South Bay	N	BART extension to Warm Springs			X

Table 2.6-3: Projects Susceptible to Surface Fault Rupture, Landslides, or Liquefaction

Project ID	Corridor	Investment*	Description	Hazard		
				SFR ^a	LDS ^b	LIQ ^c
22042	Fremont-South Bay	N	Widen I-680 for N HOV lane from Rte 237 to Stoneridge Dr	X	X	X
22062	Fremont-South Bay	N	Construct infrastructure for future Irvington BART Station	X		
22805	Fremont-South Bay	N	Dixon Landing Rd widening			X
22990	Fremont-South Bay	N	Reconstruct I-880/Rte 262 interchange			X
22668	Fremont-South Bay	V	I-680 HOV lanes /b/ Rte 84 in Alameda Co to Alcosta Blvd in Contra Costa Co	X		
22800	Fremont-South Bay	V	BART extension to Santa Clara County			X
22084	Alameda County	N	Air Cargo Access Rd			X
22823	Santa Clara County	N	Snell Ave widening			X
98103	Silicon Valley	N	SR 17 improvements, N SR 17 aux lane			X
98175	Silicon Valley	N	Widen Montague Expressway to 8 lanes from I-680 to US 101	X		X
21713	Silicon Valley	N	Construct aux lane on E Route 237 from N 1st St to Zanker Rd	X		
21714	Silicon Valley	N	SR 25/Santa Teresa Boulevard/US 101 IC Construction			X
21716	Silicon Valley	N	SR 237 widening for HOV lanes			X
21717	Silicon Valley	N	SR 25 upgrade to 6-Lane Design			X
21718	Silicon Valley	N	SR 85 aux lanes between Homestead Ave and Fremont Ave			X
21724	Silicon Valley	N	US 101 aux lane widening from Trimble Rd to Montague Expressway			X
22134	Silicon Valley	N	US 101 Southbound widening from Story Rd to Yerba Buena Rd			X
22138	Silicon Valley	N	Widen US 101 to 4 lanes from Rte 25 to Santa Clara/San Benito County	X		X
22140	Silicon Valley	N	US 101 widening between Cochrane Rd and Monterey Hwy			X
22153	Silicon Valley	N	Mathilda/SR 237 corridor improvements			X
22176	Silicon Valley	N	Berryessa Rd widening to 6 lanes			X

Part Two: Settings, Impacts, and Mitigation Measures
Chapter 2.6: Geology and Seismicity

Table 2.6-3: Projects Susceptible to Surface Fault Rupture, Landslides, or Liquefaction

Project ID	Corridor	Investment*	Description	Hazard		
				SFR ^a	LDS ^b	LIQ ^c
22177	Silicon Valley	N	Branham Lane Widening-Vista Park Drive to Snell Ave			X
22178	Silicon Valley	N	Calaveras Blvd overpass widening			X
22179	Silicon Valley	N	Central Expressway Improvements between Lawrence Expressway and San Tomas Expressway			X
22185	Silicon Valley	N	Oakland Road widening			X
22186	Silicon Valley	N	Widen San Tomas Expressway between Rte 82 and Williams Rd to 8 lanes	X		X
22422	Silicon Valley	N	Widen Senter Rd between Tully Rd and Capitol Expressway to 6 lanes	X		
22832	Silicon Valley	N	SR 152 Improvements			X
22834	Silicon Valley	N	SR 237 Eastbound Auxiliary Lane			X
22844	Silicon Valley	N	Right hand turn lane from W Monroe St to San Tomas Expressway			X
22845	Silicon Valley	N	US 101 Southbound Auxiliary Lane improvement			X
22857	Silicon Valley	N	Widen US 101 for a S aux lane from I-880 to McKee Rd/Julian St	X		X
22871	Silicon Valley	N	Uvas Park Drive Roadway extension			X
22881	Silicon Valley	N	Lawrence Expressway/SR 237 aux lane			X
22885	Silicon Valley	N	Los Gatos Creek Trail expansion			X
22886	Silicon Valley	N	McKean Rd. shoulder widening		X	X
22887	Silicon Valley	N	Moody Rd improvements			X
22888	Silicon Valley	N	King Rd Pedestrian improvements			X
22892	Silicon Valley	N	Widen US 101 S aux lane from Great America Pwy to Lawrence Expwy			X
22893	Silicon Valley	N	Widen US 101 for a N aux lane from McKee/Julian Street to I-880			X
21770	Silicon Valley	V	Caltrain extension to Salinas/Monterey			X
22017	Silicon Valley	V	SR 237 Eastbound to Mathilda Ave			X
22091	Silicon Valley	V	Upgrade Rte 152 to a 4-lane freeway	X		X
22127	Silicon Valley	V	Rte 85 N and S aux lanes from Stevens Creek Blvd to Saratoga/Sunnyvale Rd			X
22128	Silicon Valley	V	Rte 85 N and S aux lanes from Saratoga/Sunnyvale Rd to Saratoga Ave			X

Table 2.6-3: Projects Susceptible to Surface Fault Rupture, Landslides, or Liquefaction

Project ID	Corridor	Investment*	Description	Hazard		
				SFR ^a	LDS ^b	LIQ ^c
22130	Silicon Valley	V	Rte 85 N and S aux lanes from Saratoga Ave to Winchester Blvd			X
22134	Silicon Valley	V	Widen US 101 southbound from Story Rd to Yerba Buena Rd	X		
22158	Silicon Valley	V	Rte 85 aux lanes between Fremont Ave and El Camino Real	X		X
22165	Silicon Valley	V	US 101 S to Rte 237 aux lane imprvts			X
22945	Silicon Valley	V	Aldercroft Creek Bridge/Old Santa Cruz Hwy		X	
22965	Silicon Valley	V	US 101 Mabury Rd/Taylor St imprvts			X
a	SFR = Surface Fault Ruptre					
b	LDS = Landslides					
c	LIQ = Liquefaction					

*C= Committed Project, N= New Commitment Projects, V= Vision Element Project

2.7 Water Resources

This chapter analyzes the surface water and groundwater resources of the Bay Area in relation to the location of projects comprising the Transportation 2030 Plan. The potential effects of Transportation 2030 Plan on these resources are identified; and mitigation measures that may reduce those effects to a less-than-significant level are proposed.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Climate

Much of California enjoys a Mediterranean climate with cool, wet winters and warm, dry summers. Most of the region's moisture originates in the Pacific Ocean as high pressure shifts southward in the winter. The warm valley brings moisture from the ocean in the form of cooling fog to San Francisco in the summer. Climate within the Bay Area varies significantly depending on topographic conditions and proximity to the ocean. The coastal areas have mild, rainy winters and mild, foggy summers, while the inland areas experience more extreme variation between winter low and summer high temperatures. Annual rainfall in the Bay Area can range from 8 to 9 inches per year in the inland valleys to as much as 24 inches in the coastal hills and northern reaches of the region. Approximately 95 percent of annual precipitation in the Bay Area occurs between October and April, and flooding can occur in urban creeks and streams during more intense rainstorms.

Regional Physiography

The San Francisco Bay Delta system is generally regarded as the most important water system in California. Runoff from about 40 percent of the land in California (60,000 square miles) and 47 percent of the state's total streamflow drains from the Sacramento and San Joaquin Rivers into San Francisco Bay. More than 90 percent of runoff occurs during the winter and spring months from rainstorms and snow melt. San Francisco Bay encompasses approximately 1,600 square miles and is surrounded by the nine Bay Area counties. The drainage basin that contributes surface water flows directly to the Bay covers a total area of 3,464 square miles. The largest subbasins include Alameda Creek (695 square miles), the Napa River (417 square miles), and Coyote Creek (353 square miles). The San Francisco Bay estuary includes deep-water channels, tidelands, and marshlands that provide a variety of habitats for plants and animals. The salinity of the water varies widely as the landward flows of saline water and the seaward flows of fresh water converge near the Benicia Bridge. The salinity levels in the Central Bay can vary from near oceanic levels to one-quarter as much, depending on the volume of freshwater runoff.

Surface Waters

Surface waters in the Bay Area include freshwater rivers and streams, coastal waters, and estuarine waters. Estuarine waters include the San Francisco Bay Delta from the Golden Gate to the Sacramento and San Joaquin Rivers, and the lower reaches of various streams that flow directly into the Bay, such as the Napa and Petaluma Rivers in the North Bay and the Coyote and San Francisco Creeks in the South Bay. Major water bodies in the Bay Area, including creeks and rivers, are presented in Figure 2.7-1.

Groundwater

Groundwater basins are closely linked to local surface waters. As water flows from the hills toward the Bay, it percolates through permeable soils into the groundwater basins. The primary groundwater basins in the Bay Area are the Petaluma Valley, Sonoma Valley, Suisun-Fairfield Valley, San Joaquin Valley, Clayton Valley, Diablo Valley, San Ramon Valley, Livermore Valley, and Santa Clara Valley basins. Groundwater in many regions of the Bay Area is utilized for numerous purposes, including municipal and industrial water supply.

Water Quality

The quality of regional surface water and groundwater resources is affected by point-source and nonpoint-source discharges throughout individual watersheds. Regulated point sources such as wastewater treatment effluent discharges usually involve a single discharge into receiving waters. Nonpoint sources involve diffuse and nonspecific runoff that enters receiving waters through storm drains or from unimproved natural landscaping. Common nonpoint sources include urban runoff, agricultural runoff, resource extraction (ongoing and historical), and natural drainage. Pollutants that enter water bodies in urban runoff include oil and gasoline by-products from parking lots, streets, and freeways. Copper from brake linings and lead from counterweights contribute heavy metals to local waters. In addition, impervious surfaces increase runoff quantities, taxing flow capacities of local flood control systems and deteriorating natural habitats.

Regionally, stormwater runoff is estimated to contribute more heavy metals to the San Francisco Bay than direct municipal and industrial dischargers, as well as significant amounts of motor oil, paints, chemicals, debris, grease, and detergents. Runoff in storm drains may also include pesticides and herbicides from lawn care products and bacteria from animal waste. Most runoff flows untreated into creeks, lakes, and the Bay. As point sources of pollution have been brought under control, the regulatory focus has shifted to nonpoint sources, particularly urban runoff. Additional information regarding water quality in the Bay Area is provided in the regulatory setting, below.

Flood Hazards

Portions of the Bay Area are subject to flooding. The U.S. Congress passed the National Flood Insurance Act in 1968 and the Flood Disaster Protection Act in 1973 to restrict certain types of development on floodplains and to provide for a national flood insurance program. The purpose of these acts is to reduce the need for large, publicly funded flood control structures and disaster relief.

Major Rivers, Creeks and Other Water Bodies



The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program. The program provides subsidized flood insurance to communities that comply with FEMA regulations to limit development in floodplains. FEMA issues Flood Insurance Rate Maps for communities participating in the National Flood Insurance Program. Figure 2.7-2 identifies federally designated flood hazard zones in the Bay Area.

FEMA classifies flood hazard zones as follows:

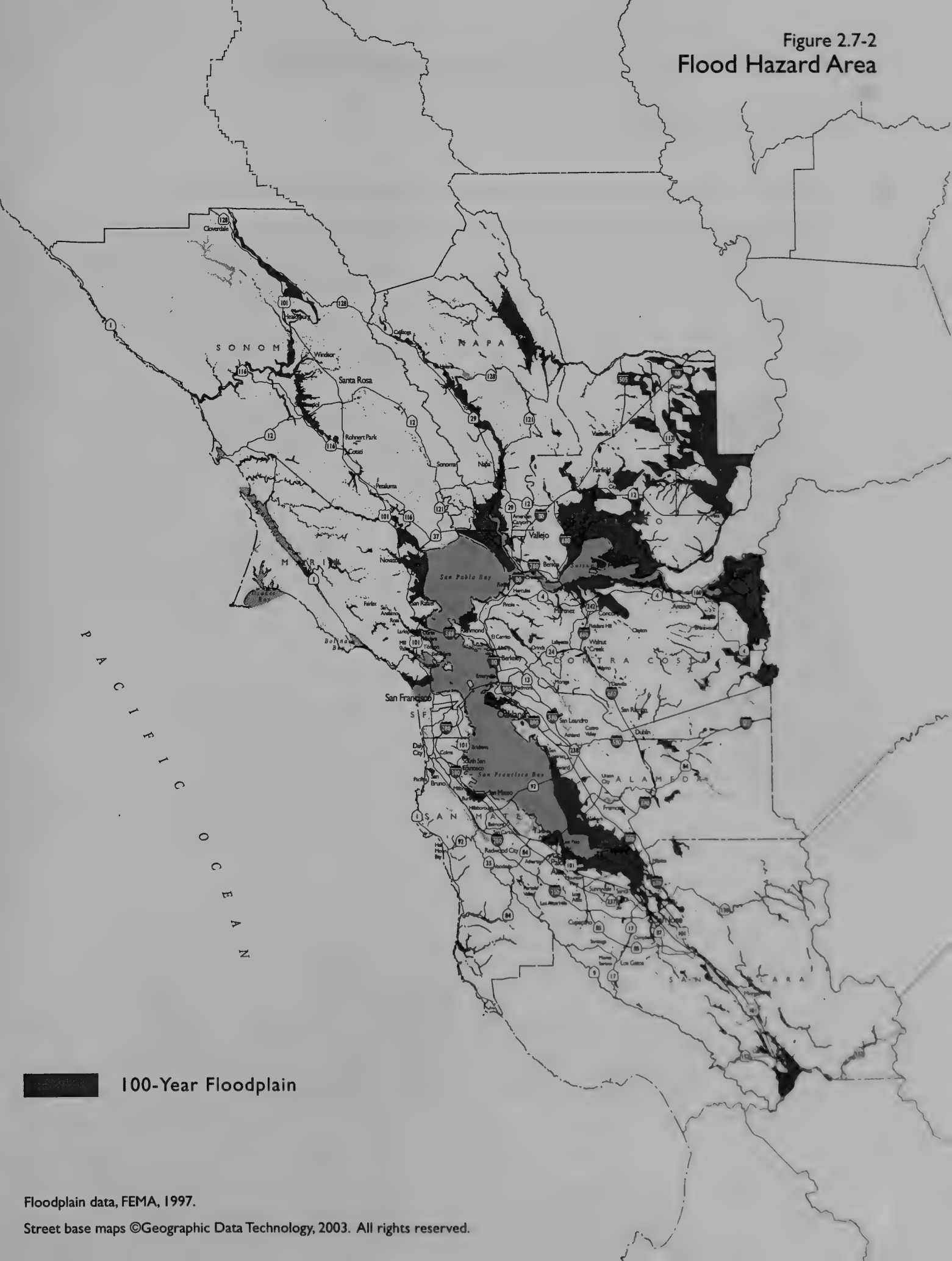
- *Zone A.* Flood insurance rate zone that corresponds to the 100-year floodplain, determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone. Mandatory flood insurance purchase requirements apply.
- *Zone B, C, and X.* Flood insurance rate zones that correspond to areas outside the limits of the 100-year floodplains; areas subject to 100-year sheet-flow flooding with average depth of less than 1 foot; areas of 100-year stream flooding where the contributing drainage area is less than one square mile; or areas protected from the 100-year flood by levees from the base flood. No base flood elevations or depths are shown within this zone.
- *Zone D.* Flood insurance rate zones that correspond to areas where there are possible but undetermined flood hazards. No analysis of flood hazards has been conducted. Mandatory flood insurance purchase requirements do not apply, but coverage is available. Flood insurance rates within Zone D are commensurate with the uncertainty of the flood hazard.

Many local jurisdictions regulate development within floodplains. Construction standards are established within local ordinances and planning elements to reduce flood impedance, safety risks, and property damage. Historic floods in the Bay Area have been devastating. In response, local flood control agencies and the U.S. Army Corps of Engineers have established extensive flood control projects, including dams and improved channels. Concrete and riprap levees and river bottoms have significantly reduced riparian habitats throughout the region.

REGULATORY SETTING

Regulatory authorities exist on both the state and federal levels for the control of water quality in California. The major federal legislation governing the water quality aspects of the project is the Clean Water Act, as amended by the Water Quality Act of 1987. The objective of the act is “to restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The State of California’s Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California. The State Water Resources Control Board (SWRCB) administers water rights, water pollution control, and water quality functions throughout the state, while the Regional Water Quality Control Boards (RWQCBs) conduct planning, permitting, and enforcement activities.

Figure 2.7-2
Flood Hazard Area



100-Year Floodplain

California State Water Resources Control Board and Regional Water Quality Control Boards

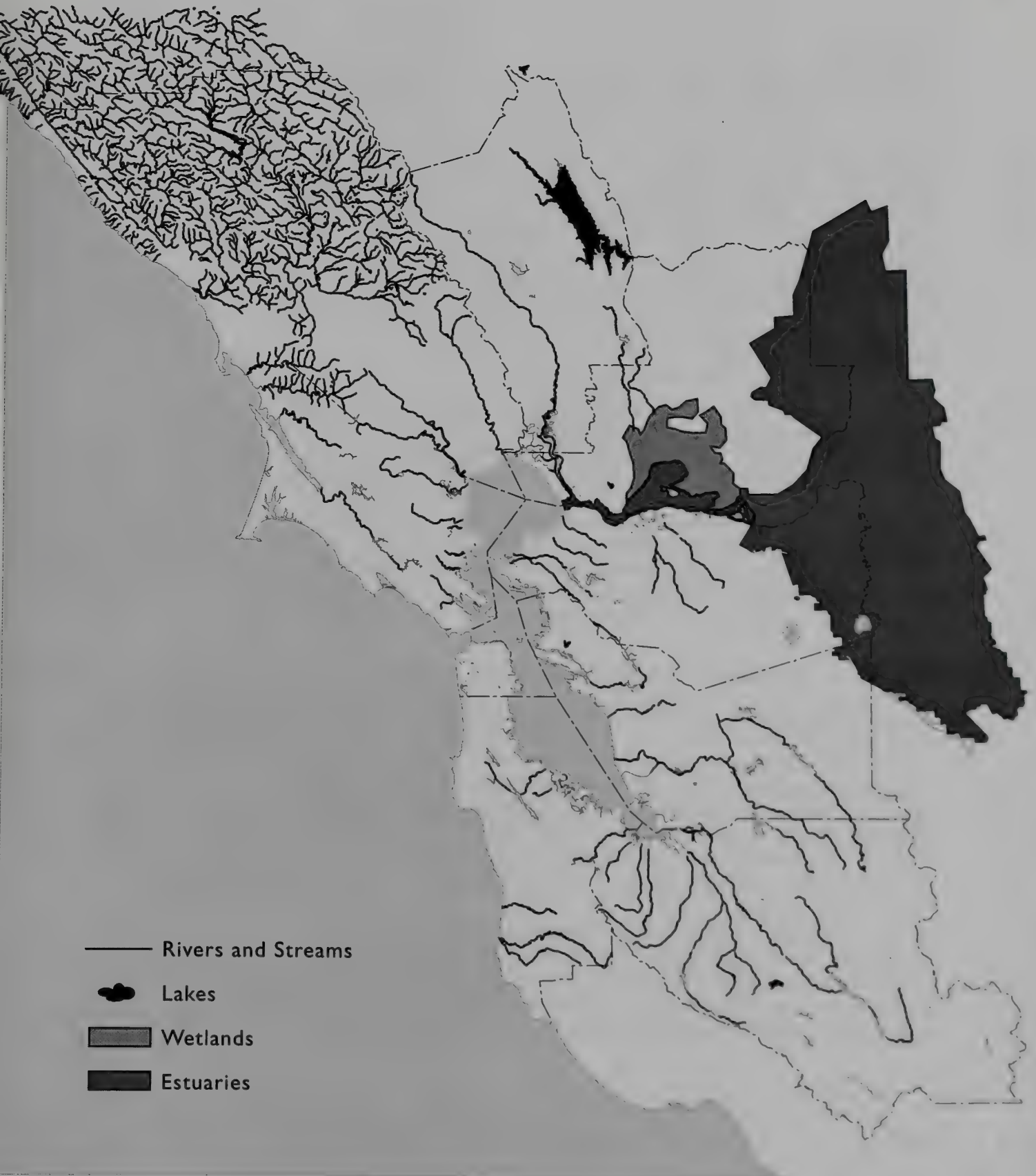
The primary responsibility for the protection and enhancement of water quality in California has been assigned by the California legislature to the SWRCB and the nine RWQCBs. The SWRCB provides state-level coordination of the water quality control program by establishing statewide policies and plans for the implementation of state and federal laws and regulations. The RWQCBs adopt and implement water quality control plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The Bay Area encompasses portions of four separate RWQCBs: the North Coast Region, Central Coast Region, San Francisco Bay Region, and the Central Valley Region.

Both the SWRCB and U.S. Environmental Protection Agency (U.S. EPA) Region IX have been in the process of developing new water quality objectives and numeric criteria for toxic pollutants for California surface waters since 1994, when a State court overturned the SWRCB's water control plans containing water quality criteria for priority toxic pollutants. U.S. EPA's California Toxics Rule (CTR) was promulgated on May 18, 2000. The new criteria largely reflect the existing criteria contained in U.S. EPA's 304(a) Gold Book (1986) and its National Toxics Rule (NTR) adopted in December 1992 [57 Federal Register 60848], and those of earlier state plans (the Inland Surface Waters Plan and the Enclosed Bays and Estuaries Plan of April 1991, since rescinded). With promulgation of the Final CTR, these federal criteria are legally applicable in the State of California for inland surface waters, enclosed bays and estuaries for all purposes and programs under the Clean Water Act.

Section 303d of the Clean Water Act - Total Maximum Daily Load (TMDL)

California has identified waters that are polluted and need further attention to support their beneficial uses. These water bodies are listed pursuant to Clean Water Act Section 303(d), which requires States to identify these polluted waters. Specifically, Section 303(d) requires that each state identify water bodies or segments of water bodies that are "impaired" (i.e., not meeting one or more of the water quality standards established by the state). Approximately 500 water bodies or segments have been listed in California. Once the water body or segment is listed, the state is required to establish "Total Maximum Daily Load," or TMDL, for the pollutant causing impairment. The TMDL is the quantity of a pollutant that can be safely assimilated by a water body without violating water quality standards. Listing a water body as impaired does not necessarily suggest that the pollutants are at levels considered hazardous to humans or aquatic life or that the water body segment cannot support the beneficial uses. The intent of the 303(d) list is to identify the water body as requiring future development of a TMDL to maintain water quality and reduce the potential for continued water quality degradation. TMDLs have yet to be determined for most of the identified impaired water bodies, although a priority schedule has been developed to complete the process in the region by 2012. The RWQCBs are responsible for developing strategies to attain compliance with the designated TMDLs. Many tributaries to and portions of San Francisco Bay and the Sacramento-San Joaquin Delta are listed as impaired water bodies on California's 303(d) list and could be adversely affected by pollutants and other stressors that affect water quality. Figure 2.7-3 shows the location of Section 303(d) impaired water bodies in the Bay Area.

Figure 2.7-3
Impaired Water Bodies



National Pollutant Discharge Elimination System

Section 402 of the Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) to regulate discharges into “navigable waters” of the United States. The RWQCBs monitor and enforce NPDES construction stormwater permitting in the Bay Area. The SWRCB administers the NPDES Permit Program through its General NPDES Permit. Construction activities of one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). The project sponsor must submit a Notice of Intent to the SWRCB in order to be covered by the General Permit prior to the beginning of construction. The General Construction Permit requires the preparation and implementation of a stormwater pollution prevention plan (SWPPP), which must be prepared before construction begins. Components of SWPPPs typically include specifications for best management practices (BMPs) to be implemented during project construction for the purpose of minimizing the discharge of pollutants in stormwater from the construction area. In addition, a SWPPP includes measures to minimize the amount of pollutants in runoff after construction is completed, and identifies a plan to inspect and maintain project BMPs and facilities.

The 1987 Clean Water Act Amendments also requires municipalities and unincorporated communities to obtain NPDES permit coverage in order to control urban stormwater runoff. Municipal NPDES permits require the development and implementation of Storm Water Management Plans (SWMP), which include measures to reduce pollutants in stormwater to the maximum extent possible. Typical components of a SWMP include the identification of BMPs to reduce stormwater pollutant from new developments, both during and after completion construction activities, and identification of measures to control increases in stormwater runoff resulting from development. Municipal stormwater permitting within the Bay Area is typically organized by county, as individual cities, towns, and unincorporated regions have joined together to better organize and coordinate stormwater management.

Sections 401 and 404 of the Clean Water Act

The RWQCBs coordinate the State Water Quality Certification Program, or Section 401 of the Clean Water Act. Under Section 401, states have the authority to review any permit or license that will result in a discharge or disruption to wetlands and other waters under state jurisdiction, to ensure that the actions are consistent with the state’s water quality requirements. This program is most often associated with Section 404 of the Clean Water Act, which obligates the U.S. Army Corps of Engineers to issue permits for the movement of dredge and fill material into and from “waters of the United States.” Additionally, Section 404 requires permits for activities that affect wetlands or alter hydrologic features, such as wetlands, rivers, or ephemeral creek beds.

IMPACT ANALYSIS

CRITERIA OF SIGNIFICANCE

This EIR uses the following criteria to assess whether proposed improvements in the proposed Transportation 2030 Plan would have a significant adverse effect on water resources:

- **Criterion 1: Erosion from cut-and-fill slopes.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects increase erosion by altering the existing drainage patterns of the site that contributes to sediment loads of streams and drainage facilities, thereby affecting water quality.
- **Criterion 2: Pollution of stormwater runoff from vehicle residues.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects increase non-point pollution of stormwater runoff due to litter, fallout from airborne particulate emissions, or discharges of vehicle residues, including petroleum hydrocarbons, and metals, that would impact the quality of receiving waters.
- **Criterion 3: Pollution of stormwater runoff from construction sites.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects result in pollution of stormwater runoff from construction sites due to discharges of sediment, chemicals, and wastes to nearby storm drains and creeks.
- **Criterion 4: Increased rates and amounts of runoff from impervious surfaces.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects result in increased rates and amounts of runoff due to additional impervious surfaces, higher runoff values for cut-and-fill slopes, or alterations to drainage systems that could cause potential flood hazards and effects on water quality.
- **Criterion 5: Reduced rates of groundwater recharge.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects reduce rates of groundwater recharge due to the increased amount of impervious surfaces.

Potential effects on water resources would vary depending on the type and scale of the project, the location of the project relative to drainage facilities and water bodies, and the sensitivity of the receiving facility or water body.

METHOD OF ANALYSIS

Impacts are determined for the proposed Transportation 2030 Plan as a whole and for specific projects involving new construction. Projects which do not include the construction of infrastructure, such as bus line schedules or routes, local road maintenance, wheelchair curb ramps, or traffic light coordination would utilize existing transportation infrastructure and would not increase impervious surface area or alter groundwater recharge patterns. Potential changes to short

or long-term quality of stormwater runoff originating from these facilities are therefore negligible. In contrast, other projects in the Transportation 2030 Plan would include the construction or expansion of interchanges, roadways, high occupancy lanes, bridges, tunnels, parking lots, or transit facility buildings. The creation of new impervious surfaces associated with these construction projects and the subsequent changes to the quality and volume of storm water runoff could result in water quality impacts. Some of these projects, based upon their location relative to surface water bodies, 100-year floodplains, and impaired water bodies, may potentially result in more significant hydrologic impacts. Due to the scale of these maps, this analysis is based upon generalized potential impacts and does not satisfy the need for site-specific surveys for individual projects.

SUMMARY OF IMPACTS

Project-specific studies could be necessary to determine the actual potential for significant impacts on hydrology and water quality resulting from implementation of transportation improvements in the Transportation 2030 Plan. However, some general impacts can be identified based on the nature of the individual transportation improvements. As noted, projects located in flood hazard areas, adjacent to water bodies, or those in which runoff drains to impaired water bodies are most likely to affect water resources.

Direct Impacts

Implementation of transportation improvements in the Transportation 2030 Plan could result in both short term and long term impacts on water resources.

Short-term impacts are temporary and generally related to construction activities, which could result in erosion and sedimentation effects on water bodies. Long-term effects are related to the intensification of regional urban uses associated with the expansion of roadways and other proposed transportation improvements, creating more impervious surfaces. Runoff from transportation facilities could increase nonpoint-source pollutant concentrations in stormwater regionally, as well as in groundwater basins. The paving required for highway projects could also decrease the amount of surface water that filters into the ground. In addition to water quality impacts, the Transportation 2030 Plan may also affect flooding, as increased runoff associated with paving may contribute to downstream flooding hazards and some projects are located in 100-year flood hazard areas.

Indirect/Cumulative Impacts

Indirect and cumulative impacts on water resources are associated with future planned urban development combined with transportation improvements that could have the potential to impact water quality, alter drainage patterns, create higher erosion rates and reduce groundwater recharge.

IMPACTS & MITIGATION

Impact

- 2.7-1 Construction of the proposed transportation improvements in the Transportation 2030 Plan could adversely affect water quality and drainage patterns in the short term due to erosion and sedimentation. *(Significant, mitigable)*

Construction activities undertaken to implement transportation improvements in the proposed Transportation 2030 Plan could include excavation, soil stockpiling, boring, and/or grading activities that create bare slopes as existing vegetation is stripped prior to the installation of impervious surfaces. Soil erosion is probable during construction and resulting water quality problems could include turbidity, increased algal growth, oxygen depletion, or sediment buildup thereby degrading aquatic habitats. Sediment from project-induced erosion could also accumulate in downstream drainage facilities and interfere with stream flow, thereby aggravating downstream flooding conditions.

Depending on the transportation project location, impacts from construction could affect local storm drain catch basins, culverts, flood control channels, streams, and San Francisco Bay. Most runoff in urban areas is eventually directed to either a storm drain or water body, unless allowed to stand in a detention area and filter into the ground. For this reason, even projects not directly adjacent to or crossing a sensitive area could have an impact.

Mitigation Measures

Project sponsors shall commit to mitigation measures at the time of certification of their project environmental document. These commitments obligate project sponsors to implement measures that would minimize or eliminate any significant impacts on water resources.

2.7(a) Local permitting agencies shall require preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), in accordance with the SWRCB's General Construction Permit. The SWPPP shall also be consistent with the Manual of Standards for Erosion and Sedimentation Control by the Association of Bay Area Governments, the California Stormwater Quality Association (CASQA), Stormwater Best Management Practice Handbook for Construction, policies and recommendations of the local urban runoff program (city and/or county), and the recommendations of the RWQCB. Implementation of the SWPPP shall be enforced by inspecting agencies during the construction period via appropriate options such as citations, fines, and stop-work orders. Typical components of a SWPPP would include the following:

- Excavation and grading activities shall be scheduled for the dry season only (April 15 to October 15), to the extent possible. This will reduce the chance of severe erosion from intense rainfall and surface runoff, as well as the potential for soil saturation in swale areas.
- If excavation occurs during the rainy season, storm runoff from the construction area shall be regulated through a stormwater management/erosion control plan that may in-

clude temporary on-site silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters. Stockpiles of loose material shall be covered and runoff diverted away from exposed soil material. If work is stopped due to rain, a positive grading away from slopes shall be provided to carry the surface runoff to areas where flow can be controlled, such as the temporary silt basins. Sediment basin/traps shall be located and operated to minimize the amount of offsite sediment transport. Any trapped sediment should be removed from the basin or trap and placed at a suitable location on-site, away from concentrated flows, or removed to an approved disposal site.

- Temporary erosion control measures shall be provided until perennial revegetation or landscaping is established and can minimize discharge of sediment into nearby waterways. For construction within 500 feet of a water body, fiber rolls and/or gravel bags shall be placed upstream adjacent to the water body.
- After completion of grading, erosion protection shall be provided on all cut-and-fill slopes. Revegetation should be facilitated by mulching, hydroseeding, or other methods and shall be initiated as soon as possible after completion of grading and prior to the onset of the rainy season (by October 15).
- Permanent revegetation/landscaping shall emphasize drought-tolerant perennial ground coverings, shrubs, and trees to improve the probability of slope and soil stabilization without adverse impacts to slope stability due to irrigation infiltration and long-term root development.
- BMPs selected and implemented for the project shall be in place and operational prior to the onset of major earthwork on the site. The construction phase facilities shall be maintained regularly and cleared of accumulated sediment as necessary.
- Hazardous materials such as fuels and solvents used on the construction sites shall be stored in covered containers and protected from rainfall, runoff, and vandalism. A stockpile of spill cleanup materials shall be readily available at all construction sites. Employees shall be trained in spill prevention and cleanup, and individuals should be designated as responsible for prevention and cleanup activities.

SWPPP(s) for projects immediately adjacent to or within drainages would also incorporate the following additional erosion control minimum criteria:

- Construction equipment shall not be operated in flowing water, except as may be necessary to construct crossings or barriers.
- Stream diversion structures shall be designed to preclude accumulation of sediment. If this is not feasible, an operation plan should be developed to prevent adverse downstream effects from sediment discharges.
- Where working areas are adjacent to or encroach on live streams, barriers shall be constructed that are adequate to prevent the discharge of turbid water in excess of specified limits. The discharged water shall not exceed 110 percent of the ambient stream turbidity of the receiving water, if the receiving water is a flowing stream with turbidity greater than 50 nephelometric turbidity unit (NTU), or 5 NTU above ambient turbidity for ambient

turbidities that are less than or equal to 40 NTU. If the water is discharged to a dry streambed, the discharged water shall not exceed 50 NTU.

- Material from construction work shall not be deposited where it could be eroded and carried to the stream by surface runoff or high stream flows.
- Riparian vegetation shall be removed only when absolutely necessary.

These mitigation measures would be expected to reduce this potentially significant impact on water resources to a less-than-significant level if incorporated by project sponsors.

Impact

2.7-2 The transportation improvements in the Transportation 2030 Plan could adversely affect water resources in the long term by reducing permeable surfaces, which could result in additional runoff and erosion, degrade water quality in receiving waters, decrease groundwater recharge, or alter drainage patterns. (*Significant, mitigable*)

The proposed Transportation 2030 Plan would result in the expansion or reconfiguration of roadways, creation of parking lots, construction of transit facilities, overall addition of impervious surface areas, and use of landscaping related pesticides, herbicides, and fertilizers associated with maintenance of vegetation bordering roadways. Urban runoff can carry a variety of pollutants, such as oil and grease, metals, sediment, and pesticide residues from roadways, parking lots, rooftops, landscaped areas, and other surfaces, and deposit them in adjacent waterways. Pollutant concentrations in urban runoff are extremely variable and are dependent on storm intensity, land use, elapsed time between storms, and the volume of runoff generated in a given area that reaches receiving waters. The most critical time for urban runoff effects is in autumn under low flow conditions. Pollutant concentrations are typically highest during the first major rainfall event after the dry season, known as the “first flush.”

Because the proposed Transportation 2030 Plan would increase the area of paved surfaces (roads, transit stations, park and ride lots, etc.), construction of the proposed projects combined with increased overall regional traffic could increase nonpoint-source pollutant concentrations in stormwater regionally. These nonpoint source pollutants could include oil and grease, petroleum hydrocarbons, and metals that would be transported by stormwater runoff to receiving water bodies. The paving required for highway projects could also have minor effects on the amount of surface water that filters into the ground, and groundwater basins could be affected by pollutants in the runoff from proposed transportation facilities.

In addition to potential water quality impacts, the proposed Transportation 2030 Plan may also affect flooding. Floodplains are areas that are periodically inundated during high flows of nearby streams or high water levels in ponds or lakes. Natural floodplains offer wildlife and plant habitat, open space, and groundwater recharge benefits. Project construction could affect these floodplain values, including potentially redirecting flood waters, if not mitigated. Proposed transportation improvements that are directly adjacent to or cross a drainage facility or water body, or are located in 100-year flood hazard areas would have a greater potential impact on water resources

than projects further from drainage facilities, water bodies, or 100-year flood hazard areas. Proposed projects within a 100-year flood hazard area are listed in Table 2.7-1 at the end of this chapter. Flood hazard areas are shown in Figure 2.7-2.

Mitigation Measures

Project sponsors shall commit to mitigation measures at the time of certification or approval of project-related environmental documents. These commitments would obligate project sponsors to implement measures to minimize or eliminate any significant impacts on water resources.

2.7(b) Local permitting agencies shall require projects to comply with design guidelines established in the Bay Area Stormwater Management Agencies Association's (BASMAA) *Start at the Source Design Guidance Manual for Stormwater Quality Protection* and the California Storm Water Best Management Practice Handbook for New Development and Redevelopment to minimize both increases in the volume and rate of stormwater runoff, and the amount of pollutants entering the storm drain system. Typical mitigation measures shall include the following:

Surface Water

- Drainage of roadway and parking lot runoff shall, wherever possible, be designed to run through grass median strips, contoured to provide adequate storage capacity and to provide overland flow, detention, and infiltration before it reaches culverts. Detention basins and ponds, aside from controlling runoff rates, can also remove particulate pollutants through settling. Facilities such as oil and sediment separators or absorbent filter systems shall therefore be designed and installed within the storm drainage system to provide filtration of stormwater prior to discharge and reduce water quality impacts whenever feasible. For example, runoff shall be filtered through mechanical or natural filtration systems such as pre-manufactured oil water separators or through natural processes such as bioswales and settlement ponds to remove oil and grease prior to discharge.
- Long-term sediment control shall include an erosion control and revegetation program designed to allow reestablishment of native vegetation on slopes in undeveloped areas.
- In areas where habitat for fish and other wildlife would be threatened by transportation facility discharge, alternate discharge options shall be sought to protect sensitive fish and wildlife populations. Maintenance activities over the life of the project should include heavy-duty sweepers, with disposal of collected debris in sanitary landfills to effectively reduce annual pollutant loads where appropriate. Catch basins and storm drains shall be cleaned and maintained on a regular basis.
- Landscaped areas shall use Integrated Pest Management techniques (methods that minimize the use of potentially hazardous chemicals for landscape pest control and vineyard operations). The handling, storage, and application of potentially hazardous chemicals shall take place in accordance with all applicable laws and regulations.

Groundwater

- Detention basins, infiltration strips, and other features to facilitate groundwater recharge shall be incorporated into the design of new freeway and roadway facilities whenever possible.

Flooding

- Projects shall be designed so that they do not increase downstream flooding risks by increasing peak runoff volumes. Including detention ponds in designs for roadway medians, parking areas, or other facilities, or increasing the size of local flood control facilities serving the project areas could achieve this measure. Existing pervious surface shall be preserved to the maximum extent possible to minimize increases in stormwater runoff volumes and rates.
- Projects shall be designed to allow lateral transmission of stormwater flows across transportation corridors with no increased risk of upstream flooding. Culverts and bridges shall be designed to adequately carry drainage waters through project sites. The bottom of overpass structures should be elevated at least 1 foot above the 100-year flood elevation at all stream and drainage channel crossings.
- All roadbeds for new highway and rail transit facilities should be elevated at least 1 foot above the 100-year base flood elevation.

Effective integration of available mitigation measures would be expected to reduce this potentially significant impact on water resources to a less-than-significant level if incorporated by project sponsors.

Cumulative Impact

- 2.7-3 Forecast urban development that would be served by transportation improvements in the proposed Transportation 2030 Plan, combined with new public and private infrastructure improvements to accommodate future planned urban development, could create degrade regional water quality, reduce groundwater recharge, or result in increased flooding. (*Significant, mitigable*)

Implementation of transportation improvements in the proposed Transportation 2030 Plan could result in indirect impacts on water resources by accommodating future planned urban development that could, when it occurs, have the potential to significantly impact water quality and alter drainage patterns. In addition, the combination of the transportation improvements in the Transportation 2030 Plan and new public and private infrastructure improvements serving future planned urban development could create higher erosion rates and reduced groundwater recharge.

Mitigation Measures

As the cumulative impacts of the transportation improvements in the Transportation 2030 Plan are the same as the direct impacts listed above, the mitigation measures for this impact would be the same as Measures 2.7(a) and 2.7(b). These mitigation measures would be expected to reduce this potentially significant cumulative impact to a less-than-significant level if incorporated by project sponsors.

Table 2.7-1: Projects Located Within a 100-Year Floodplain

Project ID	Corridor	Investment*	Description
22604	Delta	V	Vasco Rd safety and operational improvements from Brentwood to Alameda Co line
22605	Delta	V	Rte 4 Bypass, Widen Segments 2 & 3 and upgrade to full fwy
22668	Delta	V	Add I-680 HOV lanes (Route 84 to Alcosta Boulevard)
22981	Delta	V	Route 4 Widening-Marsh Creek Road to San Joaquin Co.
98222	Delta	N	Rte 4 Bypass, Segment 1: Rte 160 fwy-to-fwy connectors
98999	Delta	N	Widen Rte 4 E. from 4 to 8 lanes, Somersville Rd to Rte 160
22353	Diablo	C	I-680 SB HOV gap closure between N Main Street and Livorna
98130	Diablo	N	Widen Alhambra Ave from Route 4 to McAlvey Drive
98133	Diablo	N	Widen Pacheco Blvd to 4 lanes from Blum Rd to Arthur Rd
22624	Eastshore-North	C	Jepson Pwy-construct 4 ln from Rte 12 to Leisure Town Rd
22986	Eastshore North	C	Broadway widening: Hwy 37 to Mini Drive
22629	Eastshore-North	C	New Vallejo Ferry Terminal intermodal facility
22700	Eastshore-North	N	I-80 No. Connector: construct a parallel corridorN of I-80
22898	Eastshore-North	N	I-80 Widen to 8 lanes (Meridian Rd. to Kidwell Rd.)
94151	Eastshore-North	N	Jepson Pwy-construct 4 lanes from Rte 12 to Leisure Town Rd
21101	Eastshore-South	N	Tinker Avenue Extensions: Webster to 5th
22670	Eastshore-South	V	Extend I-880 HOV lanes north to San Leandro and Oakland
22991	Fremont-So. Bay	C	Widen I-680 for HOV/HOT lane from Route 237 to Route 84
21132	Fremont-So. Bay	N	BART extension to Warm Springs
22042	Fremont-So. Bay	N	Widen I-680, northbound HOV, Route 247 to Stoneridge Dr
22800	Fremont-So. Bay	V	BART extension to Santa Clara County
22805	Fremont-So. Bay	N	Dixon Landing Road Widening
22990	Fremont-So. Bay	N	Phase 1B: reconstruct I-880/Rte 262 I/C and widen I-880 from Rte 262 to the Santa Clara Co line to 10 lanes
21030	Golden Gate	V	I-580/US 101 I/C impvts and new fwy-to-fwy connectors
22204	Golden Gate	V	Fulton Road Improvements
21317	Golden Gate	V	Route 1 from US 101 to Flamingo Road
22419	Golden Gate	V	Widen US 101 for HOV lns from lucky D to N San Pedro Rd
22513	Golden Gate	V	SMART Commuter Rail
22655	Golden Gate	C	Widen US 101 for HOV, Rohnert Park Exp. to Santa Rosa Ave
98154	Golden Gate	N	Widen US 101 from 4 lanes to 6 lanes
94074	North Bay E-W	N	Widen Route 12 to 4 Lanes
22626	North Bay E-W	C	Routes 29/37 Interchange
22899	North Bay E-W	C	Operational and Safety Improvements Rte 12 between Suisun

Table 2.7-1: Projects Located Within a 100-Year Floodplain

Project ID	Corridor	Investment*	Description
			City and Rio Vista
21604	Peninsula	V	US 101 auxiliary lanes from Sierra
21619	Peninsula	N	Caltrain express tracks
21713	Silicon Valley	N	Construct aux ln on EB Rte 237 from N First St to Zanker Rd
21717	Silicon Valley	N	SR 25 Upgrade to 6-Lane Facility Design
21718	Silicon Valley	N	Rte 85 NB and SB aux lanes between Homestead Ave and Fremont Ave
21724	Silicon Valley	N	Widen US 101 for NB and SB aux lane from Trimble Rd to Montague Expwy
21749	Silicon Valley	N	Butterfield Blvd. Extension, Tennant Ave to Watsonville Rd
21770	Silicon Valley	V	Caltrain Extension to Salinas/Monterey
22012	Silicon Valley	V	Rte 237 eastbound aux le impvt from N First St to Zanker Rd
22091	Silicon Valley	V	Upgrade Route 152 to a limited access 4-lane freeway
22140	Silicon Valley	N	US 101 Widening between Cochrane Rd and Monterey Hwy
22145	Silicon Valley	N	SR 237 WB to NB US 101 Connector Ramp and Aux Ln Improvements
22158	Silicon Valley	V	Route 85 aux Ins between Fremont Ave and El Camino Real
22175	Silicon Valley	N	Almaden Expwy Widening Between Coleman Ave and Blossom Hill Rd to 8 lanes
22176	Silicon Valley	N	Berryessa Rd Widening to 6 Ins from I-680 to Commercial St
22178	Silicon Valley	N	Calaveras Blvd Overpass Widening
22179	Silicon Valley	N	Central Expswy impvts /b/ Lawrence Expwy and Mary Ave.
22185	Silicon Valley	N	Oakland Road Widening
22186	Silicon Valley	N	San Tomas Expwy widening /b/ SR82 and Williams Rd to 8 Ins
22832	Silicon Valley	N	Route 152 Improvements, Traffic Signal at Gilroy Foods/WTI Intersection
22844	Silicon Valley	N	San Tomas Expressway at Monroe Street
22857	Silicon Valley	N	US 101 Southbound Auxiliary Lane Widening
22871	Silicon Valley	N	Uvas Park Drive Roadway Extension
22885	Silicon Valley	N	Los Gatos Creek Trail expansion on west side
22886	Silicon Valley	N	McKean Rd. shoulder widening and treatments
22892	Silicon Valley	N	Widen US 101 SB aux lane from Great America Parkway to Lawrence Expressway
22893	Silicon Valley	N	Widen US 101, northbound lane, McKee/Julian Street to I-880
22945	Silicon Valley	V	Aldercroft Creek Bridge/Old Santa Cruz Hwy.
22960	Silicon Valley	V	Almaden Road Improvements-Malone to Curtner
22965	Silicon Valley	V	US 101/Mabury Road/Taylor Street interchange construction
22983	Silicon Valley	V	US 101/Zanker Road/Skyport Drive/Fourth Street interchange
98103	Silicon Valley	N	Construct auxiliary lane on NB Rte 17 from Camden Ave to Hamilton Ave
98175	Silicon Valley	N	Widen Montague Expressway from 6 lanes to 8 lanes
22897	Sunol Gtwy.	N	I-680 HOV lane: Calavera Boulevard
98139	Sunol Gtwy.	N	ACE station/track improvements in Alameda County

Table 2.7-1: Projects Located Within a 100-Year Floodplain

<i>Project ID</i>	<i>Corridor</i>	<i>Investment*</i>	<i>Description</i>
98140	Sunol Gtwy.	C	I-680 Sunol Grade SB HOV lanes, ramp metering and auxiliary lane from Route 84 to Route 237
22013	Tri-Valley	N	I-580 corridor improvements
22664	Tri-Valley	V	I-580 High Occupancy Toll Lanes
22666	Tri-Valley	V	Route 84 High Occupancy Toll Lanes in Tri-Valley
22776	Tri-Valley	N	Route 84 Expressway Widening

*C=Committed Project, N=New Commitment Project, V=Vision Element Project

2.8 Biological Resources

This chapter outlines the biological resources (plants, wildlife and wetlands) of the Bay Area and presents an update of biological data presented in the 2001 RTP EIR. The distribution of wetlands and biological resources in the project area has not changed substantially between the two environmental assessments; however, there have been several noteworthy changes to the regulatory environment surrounding these resources. This chapter generally describes various habitat types found in the region, associated rare, threatened and endangered (special-status) species, and areas of ecological significance. The potential effects of the proposed Transportation 2030 Plan on sensitive species and habitats, and the fragmentation of existing habitats are identified. The information and analysis presented are regional in scope. The assessment is intended to assist area-wide issue identification as it relates to regional transportation planning.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

Ecosystems in the Bay Area

The Bay Area supports an extensive diversity of distinct vegetative communities. Broad habitat categories in the region generally include coastal scrubs, oak woodlands, grasslands, estuaries, coastal salt marsh, riparian habitats, eucalyptus groves, interior wetlands, and rivers and streams. Interior wetlands, estuaries, rivers and streams, and urban/highly-disturbed habitats are not vegetation communities per se, but provide natural functions and values as wildlife habitat and are considered in this EIR.¹ Due to the amount of native vegetation lost to urbanization throughout California, the California Department of Fish and Game (CDFG) identifies several specific native vegetative communities as rare and/or sensitive. These natural communities are of special significance because the present rate of loss indicates that additional acreage reductions or further habitat degradation may threaten the viability of dependent plant and wildlife species and possibly hinder the long-term sustainability of the community or species dependent upon the community.

Some of these natural communities have a rich complement of sensitive species and species-oriented programs that will usually protect them. Other communities do not support rare species and, therefore, species-oriented protection cannot be invoked. Sensitive communities in the Bay

¹ Natural communities are compositions of species that reoccur due to responses to similar combinations of environmental conditions and are not dependent on human intervention. For this discussion, native vegetation pertains to those species present in California prior to European colonization, while species such as wild oats and brome grasses, which dominate much of the current California landscape, are considered non-native. Vegetation communities that are dependent on human intervention, such as horticultural species, irrigated agriculture, or landscaped or urbanized areas, are considered introduced communities.

Area include coastal salt marsh, freshwater wetlands, and mixed oak woodlands (coast live oak occurs as an upland and riparian community within the Bay Area).²

Following are descriptions of four common natural communities in the Transportation 2030 Plan area. These communities are discussed in detail because of their widespread distribution in the planning area, and to provide a setting for discussing special status plant and wildlife associated with these communities. These communities include coast shrub and chaparral, grasslands, riparian, and rivers and streams.

Several other natural communities also have widespread distribution in the proposed Transportation 2030 Plan area. For brevity, descriptions of Bay Area coastal marsh and estuaries, woodlands, eucalyptus grove and interior wetland communities are included in Appendix F of this EIR.

Coastal Scrub and Chaparral

The coastal scrub and sage scrub plant communities in the Bay Area are recognized on the basis of the dominant species: California buckwheat, black sage, California sagebrush, California buckwheat, coyote brush, mixed sage, and purple sage series (Sawyer and Keeler-Wolf, 1995). They are particularly dominant in the drier southern slopes and on exposed rocky slopes and bluffs within the Coast Ranges in the Bay Area. The coastal scrub is best considered as a collection or assemblage of different vegetation series, with various intergrades between the above-described plant communities. The coastal sage scrubs mix with various coastal terrace forests, grasslands, chaparrals, and foothill woodlands and are common in Marin, San Francisco, and San Mateo Counties near the proposed Transportation 2030 Plan corridors. A similar chaparral habitat occurs in the Diablo Range in Contra Costa and Alameda Counties, but maintains many of the same basic vegetative elements. Vegetation mosaics can be controlled by the soil type, slope exposure, and summer fog. Generally, these are communities of dense, low shrubs with scattered grassy openings. Most growth and flowering occur in late spring and early summer.

The distribution of rare plants and wildlife in this community often coincides with the distribution of uncommon geological features. In the case of coastal scrub plant communities, an array of plants and wildlife have adapted to serpentine-derived soils in both scrub habitats and grasslands. Such habitats may occur as individual rock outcrops on hillsides or steeper talus slopes, or as moderately sloped hillsides and alluvial deposits. Special-status serpentine-adapted scrub species include: coyote ceanothus (*Ceanothus ferrisiae*), Presidio clarkia (*Clarkia franciscana*), Mt. Diablo bird's beak (*Cordylanthus nidularius*), Marin checker lily (*Fritillaria affinis* var. *tristulis*), fragrant fritillary (*Fritillaria liliacea*), Crystal Springs lessingia (*Lessingia*

² The CDFG and California Native Plant Society recognize uncommon, vulnerable, or regionally declining habitat types as sensitive or significant communities. These communities are tracked by the CDFG in the California Natural Diversity Data Base. Each community appearing in the database is assigned a rarity and threat ranking that indicates current known acreage of the community, known threats, and the community's sensitivity to perturbation.

arachnoidea), smooth lessingia (*Lessingia micradenia* var. *glabrata*), Marin checkerbloom (*Sidalcea hickmanii* var. *viridis*), San Francisco campion (*Silene verecunda* var. *verecunda*), and Tamalpais jewel-flower (*Streptanthus batrachopus*). Those plants not specifically adapted to serpentine habitats include: San Francisco Bay spineflower (*Chorizanthe cuspidata* var. *cuspidata*), woolly-headed spineflower (*Chorizanthe cuspidata* var. *villosa*), yellow larkspur (*Delphinium luteum*), supple daisy (*Erigeron supplex*), Mt. Diablo buckwheat (*Eriogonum truncatum*), coast wallflower (*Erysisum ammophilum*), robust monardella (*Monardella villosa* var. *globosa*), Marin County navarretia (*Navarretia rosulata*), north coast phacelia (*Phacelia insularis* var. *continentis*), and Metcalf Canyon jewel flower (*Streptanthus albidus* ssp. *albidus*). Generalized habitat for special-status plant and wildlife species listed in this section, and their listing status is provided in Table F-1 in Appendix F.

There are relatively few rare wildlife species within coastal scrub habitats, and these are typically highly specialized invertebrates whose life histories are intimately dependent upon serpentine-associated species. These include callippe silverspot butterfly (*Speyeria callippe callippe*) and two non-serpentine-dependent species, San Bruno elfin butterfly (*Incisalia mossii bayensis*), and mission blue butterfly (*Icaricia icarioides missionensis*).

In Contra Costa and Alameda Counties, chaparral and scrub habitats and adjacent grasslands support the federally threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*). Critical habitat was designated for the Alameda whipsnake on October 3, 2000 in Contra Costa, Alameda, and Santa Clara Counties, where whipsnake distribution coincides closely with chaparral habitat and adjacent grasslands and oak-dominated habitats. However, the critical habitat designation was rescinded on May 15, 2003 by U.S. District Judge Anthony Ishii. There is currently no designated critical habitat for the Alameda whipsnake.

As a result of the vegetative mosaics in scrub habitats, several of the rare plants described in this vegetation community frequently occur in nearby grasslands, coastal prairies, and other adjacent habitats, particularly those species with high affinity to serpentine-derived soils. Conditions such as slope, aspect, precipitation, temperature, degree of exposure, and the presence of suitable soil conditions often mandate the distribution of rare species.

Grasslands

Grasslands within the Bay Area include generally three community types: the non-native grasslands, and the less common serpentine bunchgrass and valley needlegrass grasslands (Holland, 1986). Non-native annual grasslands occur throughout the Bay Area and consist of a dense to sparse cover of annual grasses associated with a variety of broadleaf herbs and perennial grasses. In a standard reference on California vegetation, the non-native annual grassland community is equivalent to the California annual grassland series (Sawyer and Keeler-Wolf, 1995).

Serpentine bunchgrass and valley needlegrass grasslands are both native vegetation communities with limited distribution in the Bay Area. The former community is limited due to its dependency upon serpentine sites, which are scattered throughout the Coast Ranges. This habitat is known to occur within the Golden Gate corridor, particularly in Marin County, and in the Peninsula

corridor near I-280. This open grassland community is dominated by native perennial bunchgrasses of the genera *Bromus*, *Melica*, *Nassella*, *Poa*, *Calamagrostis*, and *Festuca*. Native herbaceous species on this habitat type include California poppy, tarweed (*Hemizonia* sp.), and lotus (*Lotus* sp.). Valley needlegrass grasslands usually occur on seasonally moist, fine-textured soils and often intergrade with oak woodland communities. This formerly extensive grasslands habitat is dominated by clump-forming purple needlegrass (*Nassella pulchra*) and a variety of native and introduced grasses and herbs.

Special-status plant species that occur in specialized habitat within grasslands include white-rayed pentachaeta (*Pentachaeta bellidiflora*), San Francisco popcorn flower (*Plagiobothrys diffusus*), showy madia (*Madia radiata*), most beautiful jewel-flower (*Streptanthus albidus* ssp. *peramoenus*), Tiburon jewel-flower (*Streptanthus niger*), Tiburon Indian paintbrush (*Castilleja affinis* ssp. *neglecta*), Tamalpais lessingia (*Lessingia micradenia* var. *micradenia*), Contra Costa goldfields (*Lasthenia conjugens*), fountain thistle (*Cirsium fontinale* var. *fontinale*), Carquinez goldenbush (*Isocoma arborea*), Santa Cruz tarplant (*Holocarpha macradenia*), Marin western flax (*Hesperolinon congestum*), Brewer's western flax (*Hesperolinon breweri*), Diablo helianthella (*Helianthella castanea*), diamond-petaled California poppy (*Eschscholzia rhombipetala*), caper-fruited tropidocarpum (*Tropidocarpum capparideum*), and recurved larkspur (*Delphinium recurvatum*). Most of these species may also occur in vegetation communities other than grassland with their distribution generally restricted to specific soil types, hydrologic regimes, elevation range, and geographic distribution.

A variety of special-status wildlife species are associated with grassland habitats of the Bay Area, including Bridge's coast range shoulderband snail (*Helminthoglypta nickliniana bridgesi*), callippe silverspot butterfly (*Speyeria callippe callippe*), mission blue butterfly (*Icaricia icarioides missionensis*), bay checkerspot butterfly (*Euphydryas editha bayensis*), Edgewood blind harvestman (*Calicina minor*), California tiger salamander (*Ambystoma californiense*), western spadefoot toad (*Scaphiopus hammondi*), California red-legged frog (*Rana aurora draytonii*) (discussed under *Riparian* habitat, below), Alameda whipsnake (*Masticophis lateralis euryxanthus*), San Joaquin whipsnake (*Masticophis flagellum ruddocki*), white-tailed kite (*Elanus leucurus*), golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), California horned lark (*Eremophila alpestris*), and San Joaquin kit fox (*Vulpes macrotis mutica*). The bay checkerspot butterfly is the only grassland-associated wildlife species in the Bay Area with designated critical habitat. Critical habitat was proposed by the U.S. Fish and Wildlife Service (USFWS) for the California red-legged frog on April 13, 2004. Critical habitat for the California tiger salamander was proposed by the USFWS on August 10, 2004, and includes portions of the Transportation 2030 Plan area. The distribution of designated and proposed critical habitat for these species in the Transportation 2030 Plan area is illustrated in Figure 2.8-1 and Figure 2.8-2.

Riparian

Riparian plant communities are tree- or shrub-dominated communities that occur along streams and rivers. Riparian forests, woodlands, and scrub are often separated from one another depending on the amount and density of tree canopy versus shrub canopy. Forests support a closed or nearly closed canopy of trees with variable understory, while woodlands have an open

canopy of trees with an understory that is primarily grassy or herbaceous. Shrubs rather than trees dominate riparian scrub habitat. The most well developed riparian vegetation occurs on the largest Bay Area streams, such as Sonoma Creek, the Napa River, Putah Creek, Alameda Creek, Coyote Creek, the Guadalupe River, San Francisquito Creek, Llagas Creek, and others listed in Table 2.8-1. The major rivers, streams, and other surface waters that support riparian vegetation in the Bay Area are presented in Figure 2.7-1 of Chapter 2.7 in this EIR.

Typical dominant species in the forests, woodlands, and scrubs along these rivers are Fremont cottonwood (*Populus fremontii*), California sycamore (*Platanus racemosa*), various species of willow (*Salix* spp.), coast live oak (*Quercus agrifolia*) and white alder (*Alnus rhombifolia*). Vegetation series represented in riparian vegetation of the Bay Area include Fremont cottonwood, arroyo willow (*S. lasiolepis*), as well as coast live oak and canyon live oak series. Where not modified by urbanization, lower reaches of the above-described streams typically intergrade into broad freshwater emergent wetlands dominated by cattails and bulrush (*Scirpus* spp.). Where the riparian habitat has been degraded, either through alteration of the hydrology or direct disturbance to the vegetation, the non-native blue gum eucalyptus (*Eucalyptus globulus*), fennel (*Foeniculum vulgare*), giant reed (*Arundo donax*), or French broom (*Genista monspessulana*) are often dominant, as seen in portions of most large Bay Area streams. Most remaining high-quality riparian vegetation is afforded regulatory protection by CDFG. A discussion of specific regulations is provided in Appendix F.

Within the urbanized portions of the Bay Area, riparian habitats support the densest and most diverse wildlife communities available. The diversity of plant species, multilayered vegetation, and perennial water provides a variety of foods and microhabitat conditions for wildlife. Mature willows, oaks, sycamores, and other riparian trees provide high-quality nesting habitat for wildlife.

The federally threatened California red-legged frog still breeds in the upper reaches of most Bay Area riparian corridors and in the lower reaches within select drainage systems and ponds. The greatest concentrations of this species in the Bay Area occur near Sears Point (North Bay east-west corridor), several drainages and channels that traverse I-580 in the Livermore-Amador Valley (I-580 corridor), and in drainages on the San Francisco Peninsula (Peninsula corridor), though potential habitat may occur elsewhere.

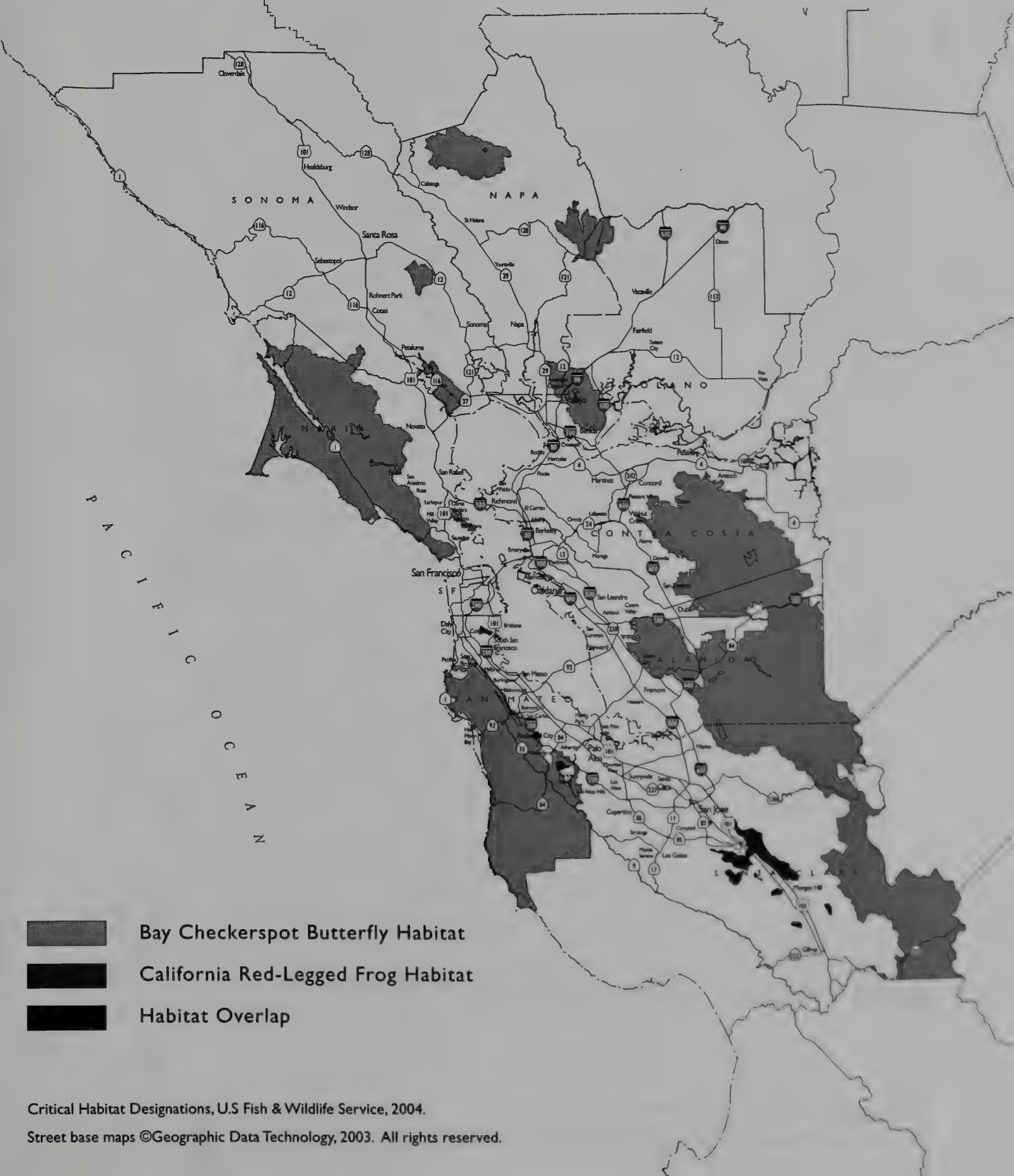
Critical habitat for the California red-legged frog was first designated on March 13, 2001 and included major portions of the East Bay, North Bay, and San Francisco Peninsula. On November 2, 2002, Judge Richard J. Leon signed a consent decree between the USFWS, the Homebuilders Association of Northern California, and El Dorado County that “vacated the final designation of critical habitat of the California red-legged frog, except for units 5 and 31, and remanded a new rulemaking to the USFWS for a revision of the critical habitat.” The proposed Transportation 2030 Plan area does not lie within critical habitat units 5 or 31, and is therefore outside of designated critical habitat for this species. Critical habitat was re-proposed on April 13, 2004 using the configuration of the previously published final designation of critical habitat for the California red-legged frog. Portions of the proposed Transportation 2030 Plan area are within proposed critical habitat for this species (see Figure 2.8-1).

Table 2.8-1: Major Rivers and Creeks in the Bay Area

<i>North San Francisco Bay</i>	
Marin County	Solano County
Gallinas Creek	Napa River
Novato Creek	Green Valley Creek
Corte Madera Creek	Putah Creek
Miller Creek	Suisun Creek
Lagunitas Creek	Sonoma County
Napa County	Sonoma Creek
Napa River	Petaluma River
Huichica Creek	Santa Rosa Creek
<i>East San Francisco Bay</i>	
Alameda County	Contra Costa County
San Leandro Creek	San Pablo Creek
Alameda Creek	
San Lorenzo Creek	
<i>South San Francisco Bay</i>	
Santa Clara County	
Coyote Creek	
Guadalupe River	
Steven's Creek	
Permanente Creek	
Adobe Creek	
San Francisquito Creek	
Los Gatos Creek	
Llagas Creek (drains to the Pacific Ocean via the Pajaro River)	
<i>San Francisco Peninsula</i>	
San Mateo County	San Francisco City and County
Cordilleras Creek	None
San Mateo Creek	
Sanchez Creek	

Source: Environmental Science Associates, 2004

Figure 2.8-1
**Proposed Critical Habitat for the California
 Red-Legged Frog and Critical Habitat for the
 Bay Checkerspot Butterfly**

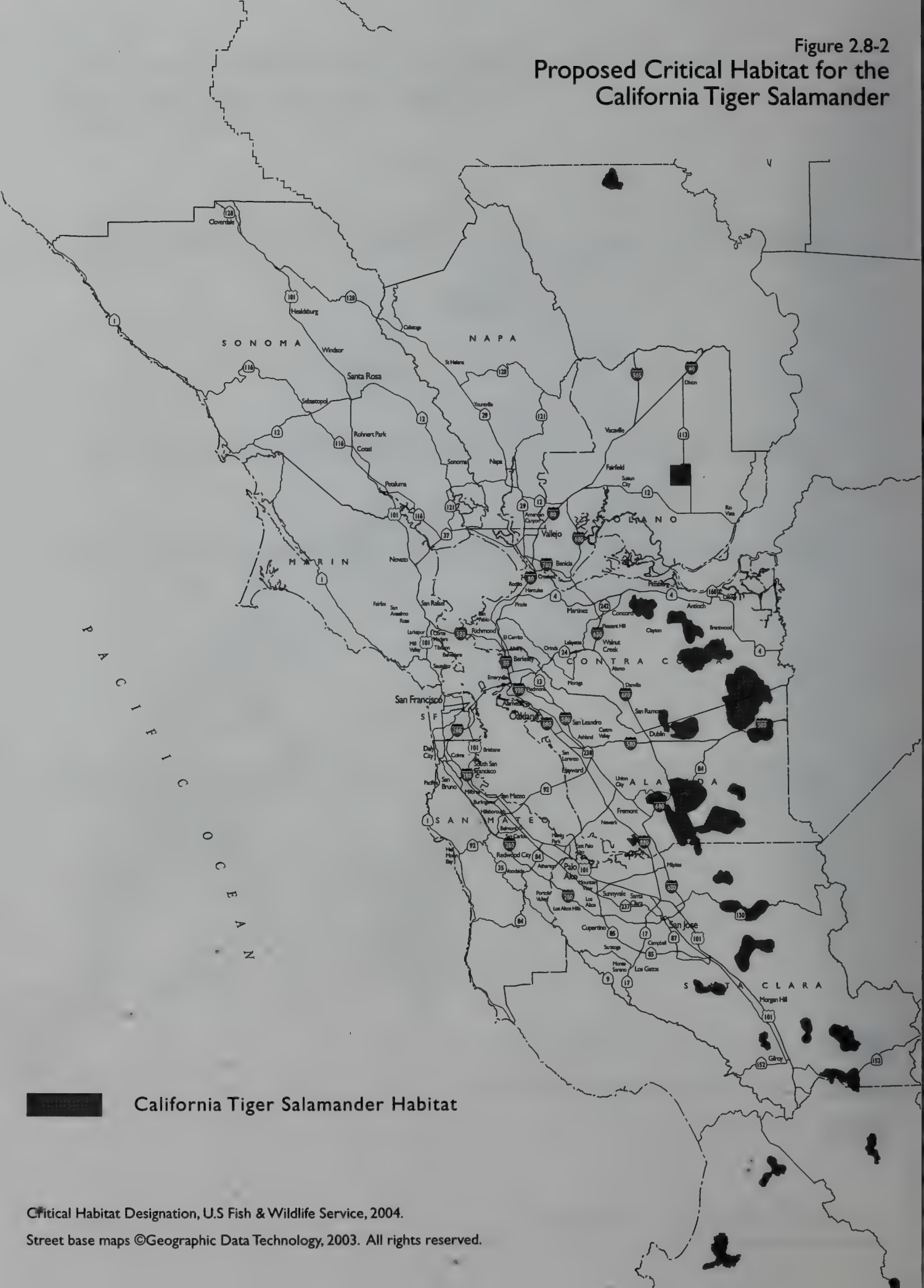


Bay Checkerspot Butterfly Habitat

California Red-Legged Frog Habitat

Habitat Overlap

Figure 2.8-2
Proposed Critical Habitat for the
California Tiger Salamander



California Tiger Salamander Habitat

The foothill yellow-legged frog (*Rana boylei*) occurs in the upper, rocky reaches of some North Bay and inner Coast Ranges streams (e.g., at Sunol Regional Park). Due to the absence of Rocky Mountain streams in the Bay Area, this species is not expected in any of the Transportation 2030 Plan corridors. The federal and state-listed endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) occurs on the San Francisco Peninsula, where riparian habitats meet open water and freshwater marshlands. Habitats within the Peninsula corridor occur in marshlands near San Francisco International Airport (US 101) and in tributary streams to the Crystal Springs Reservoir (I-280). Riparian habitats in the Bay Area may also support small populations of western pond turtle (*Emmys* (= *Clemmys*) *marmorata*). The federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is dependent upon the elderberry bush (*Sambucus* sp., usually *mexicana*) throughout its entire life history. Elderberry bushes occur statewide and commonly occur in riparian corridors, but may also be present in isolated stands or in woodlands outside riparian habitats. The range of the valley elderberry longhorn beetle includes portions of Solano County (I-80 corridor) and eastern Contra Costa and Alameda counties.

Rivers and Streams

Rivers and streams of the Bay Area have several common ecological attributes:

- As a result of urbanization, many smaller streams on the San Francisco Peninsula, south San Francisco Bay, East Bay, and in portions of the North Bay have been channelized or otherwise developed for flood control or agriculture.
- Most of these waterways are small, seasonal streams, and in the case of urbanized streams, many maintain perennial flows from urban runoff sources during late summer months.
- There are a handful of native streams and rivers in each county that account for the majority of freshwater flows to San Francisco Bay and provide the greatest opportunities for special-status plants and wildlife species.

The Bay Area is drained by many small to mid-sized rivers and creeks spread throughout the region (see Table 2.8-1). The Sacramento River Delta contributes the majority of the freshwater input to San Francisco Bay; however, this discussion concentrates on other tributaries in the region that provide important riverine and aquatic habitat. In the North Bay, the Petaluma River, Sonoma Creek, and Napa River account for much of the freshwater flows into San Pablo Bay.

Relatively smaller, though biologically important contributions are made from Gallinas Creek, Novato Creek, Corte Madera Creek, and Miller Creek in Marin County. In general, there are few impediments or obstructions in these creeks, and the watershed. These tributaries are less channelized, offering habitat for listed native salmonids including coho salmon (central California Evolutionarily Significant Unit, or ESU) and steelhead (central California coast ESU). Solano County watersheds are also relatively undeveloped, including the Putah Creek watershed. Lake Berryessa limits the availability of headwater habitats in Putah Creek to anadromous fish, but this creek still provides valuable aquatic resources.

Stream resources in the East Bay, South Bay, and San Francisco Peninsula have been degraded by urban development, particularly adjacent to and within stream courses. As a result of these changes, only a handful of major streams in these areas support native fisheries and special-status fisheries. These include Alameda Creek, which drains the largely undeveloped watershed of the Sunol Valley and Livermore-Amador Valley, Coyote Creek, Guadalupe River, and Los Gatos Creek in the South Bay, and San Francisquito Creek, Permanente Creek, and San Mateo Creek on the San Francisco Peninsula. In Gilroy and Morgan Hill, Llagas Creek transports flows southward to the Pajaro River. Major dams or other fish impediments that prevent fish from reaching the upper watersheds are present in all of these streams, with the exception of San Francisquito Creek.

Common fish species that have been identified in the lower, freshwater reaches of larger Bay Area creeks can be classified into the Sacramento blackfish – introduced fishes association. Such species include Sacramento perch (*Archoplites interruptus*), splittail (*Pogonichthys macrolepidotus*), hitch (*Lavinia exilicauda*), tule perch (*Hysterocarpus traski*), Sacramento blackfish (*Orthodon microlepidotus*), Pacific lamprey (*Lampetra tridentata*), and Sacramento sucker (*Catostomus occidentalis*). These are often joined by the introduced largemouth bass and smallmouth bass (*Micropterus* spp.), goldfish (*Carassius auratus*), carp (*Cyprinus carpio*), bluegill, and green sunfish (*Lepomis* sp.), which can be found where there is year-round water, as well as mosquitofish (*Gambusia affinis*). Several catfish, including black bullhead (*Ictalurus melas*), brown bullhead (*Ictalurus nebulosus*), and channel catfish (*Ictalurus punctatus*), are widely distributed, especially in the warm lower reaches of Bay Area rivers and creeks. The Sacramento perch and Pacific lamprey are both federal species of concern and California species of special concern.

Habitat for these species occurs primarily in those streams listed in Table 2.8-1, though other streams in the Bay Area can and do support these species. Special-status fish are less common in rivers and streams of the Bay Area. These include the federally listed tidewater goby (*Eucyclogobius newberryi*), coho salmon–central California ESU (*Oncorhynchus kisutch*), steelhead–central California ESU (*Oncorhynchus mykiss*), Chinook salmon (*Oncorhynchus tshawytscha*), and Sacramento splittail (*Pogonichthys lucius*). Several species of limited distribution and rarity occur exclusively in the lower reaches of drainages near and within the Delta, such as longfin smelt (*Spirinichus thaleichthys*) and the state- and federally listed threatened Delta smelt (*Hypomesus transpacificus*). Llagas Creek crosses US 101 in the southern Santa Clara Valley subarea and, though dry seasonally, supports steelhead within the South/Central California ESU.

The federally listed endangered California freshwater shrimp (*Syncaris pacifica*) occurs in low gradient, structurally diverse perennial streams in the northern Bay Area (USFWS, 1998). Of the 17 streams that support this species, those in the Bay Area include Sonoma Creek, the Napa River, and Huichica Creek, which drain to San Pablo Bay; and Laguna de Santa Rosa (Santa Rosa Creek) and its tributaries, which drain to the Russian River. The 1998 Recovery Plan for this species seeks the long-term protection of aquatic and riparian habitat as criteria for species delisting.

Suitable steelhead and coho spawning habitat is found in streams and rivers where there is less development. Steelhead require higher gradient, upper reaches of streams, with access to the

ocean during emigration and spawning, and cool year-round water temperatures for the juveniles' rearing habitat. Steelhead populations are documented from San Francisquito Creek, Guadalupe River, Coyote Creek, Sonoma Creek, Napa River, Putah Creek, and possibly in Alameda Creek. Several small, cool-water drainages in Marin County support coho salmon, which apparently do not successfully reproduce south of the Golden Gate (Fed. Reg., 1999). Steelhead are known to sporadically migrate into and occasionally breed in small streams throughout the Bay Area.

Bridges of various rivers and streams provide nesting opportunities for the nonlisted barn swallow (*Hirundo rustica*) and cliff swallow (*Petrochelidon pyrrhonota*), which are protected under the Migratory Bird Treaty Act. These species build cup- and gourd-shaped nests, respectively, using mud as their primary construction material.

San Francisco Bay Aquatic Resources

The San Francisco Bay and Delta make up the Pacific Coast's largest estuary, encompassing roughly 1,600 square miles of waterways and draining over 40 percent of California's fresh water. The Sacramento and San Joaquin Rivers flow from Northern California's inland valleys into the Delta's winding system of islands, sloughs, canals, and channels, before emptying into San Francisco Bay and the Pacific Ocean. Six project corridors bridge the open waters of San Francisco Bay, and many others are located in close proximity to the Bay.

The marine environment varies widely between the six travel corridors that cross the open waters of the San Francisco Bay. Most of the transbay corridors consist of open water habitat; that is, habitat below the low-tide line (also known as subtidal habitat).

Eelgrass (*Zostera marina*) may occur near the footings of bridges in the transbay corridors and is considered a sensitive habitat by CDFG. Eelgrass is an important habitat for many organisms and may influence benthic community structure by stabilizing sediments, providing forage and detritus food sources, and creating a refuge and nursery for small organisms. Eelgrass beds also provide an important attachment substrate for Pacific herring eggs (USFWS, 1994).

More than 100 species of fish are described from the San Francisco Bay system (USFWS, 1983). The majority of these are native species that live year-round in San Francisco Bay, though a few, such as striped bass (*Morone saxatilis*), have been introduced. Anadromous fish use San Francisco Bay seasonally during their migrations to and from spawning grounds throughout the Bay Area and in the California's Central Valley.

The USFWS recognizes several threatened and endangered species that occur in San Francisco Bay. These include the Steller sea-lion (*Eumetopias jubatus*), the loggerhead sea turtle (*Caretta caretta*), leatherback turtle (*Dermochelys coriacea*), olive ridley sea turtle (*Lepidochelys olivacea*), and several fish species, including coho salmon—central California ESU, steelhead—central California coast ESU, tidewater goby, delta smelt, Pacific lamprey, and Sacramento splittail. The goby, smelt, lamprey and splittail are resident species; the other species, however, are expected to use open water habitats of the bay either seasonally or infrequently.

REGULATORY SETTING

The regulations and policies of various federal and state agencies (e.g., U.S. Army Corps of Engineers [Corps], U.S. Environmental Protection Agency [EPA] and USFWS) mandate protection of wetlands, special-status plant and wildlife species, and aquatic and terrestrial communities in the region. The Corps has primary federal responsibility for administering regulations that concern waters and wetlands, while the USFWS, National Marine Fisheries Service, and the CDFG have lead responsibility for determining potential project effects on federal- and state-listed species and other species of concern. A complete survey of agencies responsible for ensuring compliance with state and federal regulations is provided in Appendix F.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects occur in any of the following:

- **Criterion 1: Natural Vegetation.** Areas of natural vegetation, potentially resulting in disruption of wildlife corridors, impediments to native wildlife nurseries, interference of wildlife movement, or threats to designated sensitive plant or animal communities.
- **Criterion 2: Wetlands and Aquatic Resources.** Near or adjacent to wetlands or aquatic resource (i.e., riparian, riverine, coastal, or wetland).
- **Criterion 3: Special-Status Species.** Near or within the designated or known habitat of a special-status plant or animal species.
- **Criterion 4: Resource Plans.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects conflict with an adopted resource protection and conservation plan, such as a Habitat Conservation Plan, Natural Community Conservation Plan, or other adopted local, regional, or state habitat conservation plan.

METHOD OF ANALYSIS

Though many of the individual Transportation 2030 Plan projects have not been fully defined and finalized, a general representation of potential regional impacts on biological resources can be generated at this early stage based solely on the location of individual projects relative to the known and potential distribution of sensitive biological receptors. For this impact assessment, the locations of projects in the proposed Transportation 2030 Plan were compared with locations of sensitive species and important habitat areas. Potential impacts were determined by evaluating whether proposed transportation improvements would occur within the potential range of a special-status species of concern, whether the projects would directly encroach upon an area of ecological significance, or whether the projects could involve the filling of wetlands. However, this method is only reliable to a limited degree as many special status species have widespread distribution or are known to freely utilize a variety of habitat types.

Impacts would be more likely to occur where projects could have an effect upon ecologically sensitive or significant areas. Projects involving significant ground-disturbing activity were reviewed with the closest scrutiny, including road widenings, highway extensions, interchange projects, bridges and rail extensions. Resources used to identify these potential impacts included the California Natural Diversity Database, National Wetland Inventory Maps, city and county master plans, published environmental impact reports, or other CEQA/NEPA documents.

In many cases, the project alignments, locations, or other design details are not known because the projects are in the early stages of planning or development. As a result, this impact analysis relies largely on the potential for biological impacts based on proximity to sensitive resources, an analysis method that inherently tends to inflate the potential for adverse effects. Thus, while such impacts may be identified in this EIR, upon project implementation it is anticipated that actual impacts will be incrementally smaller. Laws and regulations protecting special-status species, areas of ecological significance, and wetland resources are effective incentives for project proponents to design alternatives that either avoid or substantially reduce impacts on these resources.

Projects that would not expand transportation-dedicated lands were assumed to have minimal potential biological impacts. These projects include signal and traffic operational improvements, rail extensions along existing rights-of-way, and road widenings in urban areas or within existing rights of way. However, CEQA may require more detailed evaluations on a project-by-project basis to determine the exact resources found within proposed road or rail alignments. Since the specific details of many projects are not yet known, this assessment identifies general locations of potential adverse effects.

SUMMARY OF IMPACTS

The implementation of transportation improvements in the Plan would increase roadway footprints in the Bay Area and could incrementally impact adjacent wetlands, forested areas, grasslands, and other areas and the associated plant and wildlife species. Because the proposed transportation improvements are mainly concentrated along existing transportation corridors, the overall habitat loss and fragmentation is considered lower than if projects were entirely new construction.

Direct Impacts

Short Term Impacts

Short-term impacts resulting from completion of proposed Transportation 2030 Plan improvements include the temporary loss and/or degradation of wetlands, sensitive natural communities, and special-status plant and wildlife species. Such impacts could result from construction disturbances, or from erosion or other indirect project effects. Temporary impacts may include the presence of temporary pile driving equipment in streams or other sensitive areas during bridge construction, short-term fill of wetlands, or the inadvertent release of soils or other materials into a jurisdictional wetland during construction activities.

Long Term Impacts

Direct long-term impacts on sensitive natural communities include effects on both common and special-status plant and wildlife species. This impact is due, in part, to the difficulty in constructing successful habitat replacement for natural areas such as wetlands, riparian forests, and native grasslands. Transportation improvements in the proposed Transportation 2030 Plan that occur within or adjacent to coastal marsh and/or estuarine habitats have the potential to decrease habitat and result in significant long-term impacts on special-status plant and wildlife species. Other proposed transportation projects could also contribute incrementally to habitat loss for special-status plant or wildlife species.

Long-term increases in the volume of vehicular traffic and development of new roads in rural areas are expected to result in increased road casualties to common and special-status wildlife species. This effect would be most pronounced in rural areas, which traverse marshland and grassland habitats. Such changes may also affect the volume of grease, oil, gasoline, and other contaminants entering Bay Area streams and San Francisco Bay and have deleterious effects on fisheries.

Indirect / Cumulative Impacts

Implementation of transportation improvements in the proposed Transportation 2030 Plan could result in indirect biological resource impacts by accommodating new urban development that could have the potential to degrade wetlands and other sensitive natural communities and affect special-status plant and wildlife species. In addition, by improving regional mobility, transportation improvements in the proposed Transportation 2030 Plan, when viewed cumulatively with other regional development projects, could serve planned development of rural environs – east Contra Costa County, southern Santa Clara County, the US 101 corridor in Marin and Sonoma counties, etc. Since these indirect impacts on biological resources are associated with forecast urban development in the Bay Area, they could also be considered a cumulative effect. In addition, other transportation improvements in the proposed Transportation 2030 Plan not identified as having a direct impact on biological resources in the regional context may result in individually minor impacts locally. Collectively, these individually minor impacts on biological resources may become significant over time.

IMPACTS & MITIGATION MEASURES

Impact

2.8-1 Transportation improvements in the proposed Transportation 2030 Plan could adversely affect wetlands and aquatic resources. (*Significant, mitigable*)

Impacts include the temporary disturbance to or permanent loss of wetlands or wetland functioning, incremental degradation of wetland habitats, or segmentation of habitats. Wetland resources in the immediate vicinity of proposed transportation improvements vary from relatively small, isolated roadside areas, wet meadows, and vernal pools to major streams and

rivers, and vegetated shorelines. Any fill of significant wetland habitats associated with proposed transportation improvements would be considered a significant impact.

In addition to the direct loss of habitat, implementation of proposed transportation projects could increase the potential for stormwater runoff to carry a variety of pollutants into wetlands, rivers, streams, and San Francisco Bay. Construction runoff often carries grease, oil, and heavy metals (due to ground disturbance) into natural drainages. Furthermore, particulate materials generated by construction could be carried by runoff into natural waterways and could increase sedimentation impacts. Based on the comprehensive project list, 83 projects were identified that have the potential to directly impact wetlands by direct fill, shading, or otherwise. The wetland impact assessment in Table 2.8-2 was developed based on project proximity to blueline streams and other wetlands, where the proposed project either intersects, bridges, or could otherwise impact a jurisdictional wetland feature. Because the list focuses on major mapped wetlands some smaller features that could be impacted may not be reflected. Also, conversely, because proximity of a project to a wetland is a poor indicator of actual impacts, the list may overstate the number of projects that will impact wetlands.

Mitigation Measures

In accordance with guidelines of the U.S. Army Corps of Engineers (Corps), the U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service (USFWS), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Game (CDFG), a goal of “no net loss” of wetland acreage and value will be implemented, wherever possible, through avoidance of the resource.

2.8(a) In keeping with the no net loss policy, project designs shall be reconfigured, whenever possible, to avoid sensitive wetlands and avoid disturbances to wetland and riparian corridors. Projects shall minimize ground disturbances and construction footprints near such areas to the extent practicable.

Mitigation for wetland impacts due to the transportation projects would be based on project-specific wetland mitigation plans, subject to approval by the Corps, and possibly by the USFWS, RWQCB, and CDFG as well. Mitigation for placing fill in wetlands would be partially achieved by avoiding wetlands and by minimizing fill where avoidance is not feasible. Individual projects shall minimize the use of in-water construction methods to reduce impacts to wetlands, and only do so with express permit approval from the appropriate resources agencies.

Avoidance, compensatory restoration, or creation of new wetland communities to offset the conversion of wetlands for proposed transportation improvements would achieve “no net loss” of wetland acreage and value. Implementing the above mitigation on a site-by-site basis would reduce project effects to a less-than-significant level.

Impact

- 2.8-2 Transportation improvements in the proposed Transportation 2030 Plan could cause substantial disturbance of biologically unique or sensitive communities that are regulated by CDFG. (*Significant, mitigable*)

Proposed transportation projects located near or adjacent to protected plant communities could cause an incremental loss of these community types and would constitute a significant impact. State-protected vegetation or natural communities in the region include serpentine chaparral, northern maritime chaparral, coastal terrace prairie, serpentine bunchgrass, freshwater seeps, northern coastal salt marsh, coastal brackish marsh, coastal freshwater marsh, riparian forest (several), California bay forest, and eelgrass beds (Holland, 1986). In general, the proposed projects are not located in areas that support sensitive communities that are regulated by CDFG; however, several relatively widespread plant communities including sycamore and willow-dominated riparian (wetland-associated) habitats, and vegetated stream channels are also regulated by CDFG. Because they are often associated with jurisdictional wetlands, impacts on sensitive plant communities are often covered during the permitting process. However, the permitting process would not address impacts on upland communities such as serpentine bunchgrass or coastal terrace prairie. Impacts on such communities would be addressed in coordination with CDFG. The magnitude of this impact within the project area is not known, but is likely similar to the level of impact anticipated in Impact 2.8-1 for wetlands, which identifies 83 sites where a potential impact may occur. Impacts on sensitive upland communities are not known, but would likely be minor because such communities are not common in developed portions of the Bay Area.

Mitigation Measures

2.8(b) In accordance with CDFG guidelines, project sponsors shall make an effort to minimize impacts on sensitive plant communities, especially riparian habitats, when designing and permitting projects. Where applicable, projects shall conform to the provisions of special area management or restoration plans such as the Suisun Marsh Protection Plan, which outline specific measures to protect sensitive vegetation communities.

Implementing the above mitigation on a site-by-site basis would reduce project effects to a less-than-significant level.

Impact

- 2.8-3 Proposed transportation improvements in the proposed Transportation 2030 Plan could have deleterious impacts on special-status plant and/or wildlife species identified as endangered, candidate, and/or special status by the CDFG or USFWS. (*Significant, unavoidable*)

For the purposes of this analysis, unless known to be absent, special-status species are presumed present in all areas that provide at least moderate quality habitat. Special-status species with the greatest potential to be impacted by projects in the proposed Transportation 2030 Plan are listed

in Table F-1 in Appendix F. Table 2.8-2 lists 80 projects that have the potential to impact special status plant or wildlife species. This list of projects was generated based on project proximity to known sensitive habitats, GIS-based maps showing USFWS proposed or designated critical habitat (USFWS, 2004a; 2004b), and the CNDDDB (2004).

Potential effects on special-status species include the temporary removal of vegetation and habitat, direct mortality from equipment, loss or degradation of designated critical habitat, entrapment in open trenches, and general disturbance due to noise or vibration during pile-driving, earthmoving, and other construction activities. Additional impacts on special-status species could occur as a result of habitat fragmentation, increased human intrusion, erosion, introduction of invasive species, disruption of migratory corridors, sedimentation, filling and disturbance of aquatic habitats, and general reduction in biological diversity.

Mitigation Measures

2.8(c) At the time of project certification, project sponsors shall agree to comply with mitigation measures to protect special-status plant and wildlife species. This requirement obligates project sponsors to implement measures that avoid, minimize, and compensate for significant impacts on special-status species and their habitat. Typical measures that may be included by project sponsors include:

1. In support of CEQA, NEPA, and CDFG and USFWS permitting processes for individual Transportation 2030 Plan transportation projects, biological and wetland surveys shall be conducted as part of the environmental review process to determine the presence and extent of sensitive habitats and/or species in the project vicinity. Surveys shall follow established methods and shall be undertaken at times when the subject species is most likely to be identified. In cases where impacts to state- or federal-listed plant or wildlife species are imminent, formal protocol-level surveys may be required on a species-by-species basis to determine the local distribution of these species. Consultation with the USFWS and/or CDFG shall be conducted at an informal level for transportation projects that could adversely affect federal or State candidate, threatened, or endangered species to determine the need for further consultation or permitting actions.
2. Project designs shall be reconfigured, whenever possible, to avoid sensitive wetland or biological resources and avoid disturbances to wetland and riparian corridors. Projects shall minimize ground disturbances and construction footprints near sensitive areas to the extent practicable.
3. To the extent practicable, project activities in the vicinity of sensitive resources shall be completed during the period that best avoids disturbance to plant and wildlife species present (e.g., May 15 to October 15 near salmonid habitat and vernal pools).
4. Individual projects shall minimize the use of in-water construction methods in areas that support sensitive fish species, especially when fish are present.
5. In the event that equipment needs to operate in any watercourse with flowing or standing water, a qualified biological resource monitor shall be present at all times to alert

construction crews to the possible presence of California red-legged frog, nesting birds, salmonids, or other aquatic species at risk during construction operations.

6. Construction periods shall not occur during the breeding season near riparian habitat, freshwater marshlands, and salt marsh habitats that support special-status nesting bird species (e.g., yellow warbler, tricolored blackbird [*Agelaius tricolor*], or California clapper rail).
7. A qualified biologist shall locate and fence off sensitive resources before construction activities begin and, where required, shall inspect areas to ensure that barrier fencing, stakes, and setback buffers are maintained during construction.
8. For work sites located adjacent to special-status plant or wildlife populations, a biological resource education program shall be provided for construction crews and contractors (primarily crew and construction foremen) before construction activities begin.
9. Biological monitoring shall be particularly targeted for areas near identified habitat for federal- and state-listed species, and a “no take” approach shall be taken whenever feasible during construction near special-status plant and wildlife species.

The implementation of the above mitigation measures may not eliminate or reduce the impacts of individual projects to a less-than-significant level. Impacts on special-status wildlife species as a result of transportation infrastructure improvements are considered significant and unavoidable.

Impact

- 2.8-4 Proposed transportation improvements in the proposed Transportation 2030 Plan could have deleterious impacts on proposed or designated critical habitats. (*Adverse, but not significant*)**

Approximately 25 transportation projects traverse areas that are proposed by the USFWS as critical habitat for California tiger salamander and/or California red-legged frog. Impacts on proposed critical habitat consist of permanent or temporary modification or loss of areas that have high conservation value for listed amphibians. Impacts could also include the introduction of additional vehicular or recreational pressures where they do not currently exist. The overall effect of the proposed projects upon critical habitats is considered less-than-significant because the projects are proposed throughout the region and are only located on the fringes of designated habitat units. In all, impacts on critical habitat would mostly occur as a result of projects that define the boundaries of the critical habitat unit, that would be expanded into the unit, for example, in the case of a road widening project.

Mitigation Measures

Specific projects that may be located within critical habitat areas will be subject to established protocols for surveys and protective measures. No further mitigation measures are required.

Impact

2.8-5 Construction activities could adversely affect nonlisted nesting raptor species. (*Significant, mitigable*)

Nesting habitat for several nonlisted raptor species could occur near a number of proposed transportation projects. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a “taking” by the CDFG and would be considered a significant impact. Nesting habitat for northern harrier, white-tailed kite, Cooper’s hawk, and sharp-shinned hawk are present in grasslands and riparian habitats in the MTC region. Additionally, red-shouldered hawk, red-tailed hawk, American kestrel, barn owl, great horned owl, and western screech owl may breed in riparian habitats. Nesting habitat for golden eagle may occur in open grasslands of the Diablo Range and Vaca Range in Napa, Solano, Contra Costa, and Alameda Counties.

Mitigation Measures

2.8(d) At the time of project certification, project sponsors shall agree to comply with mitigation measures to avoid and minimize impacts to nesting raptors. Typical measures that may be included by project sponsors include:

1. To avoid and minimize impacts to nesting raptors, preconstruction surveys would be performed prior to initiating construction activities during the breeding season (February 1 through August 31). If it is determined that young have fledged and are self-sufficient, no further mitigation would be required.
2. To avoid and minimize potential impacts to nesting raptors, a no-disturbance buffer zone would be established around active nests during the breeding season.
3. The size of individual buffers could be adjusted based on an evaluation of the site by a qualified raptor biologist.

Implementing the above mitigation measures would allow early recognition of nesting raptors in and near work areas and avoid impacts to these species. Following implementation of seasonal avoidance methods, this impact is considered less than significant.

Impact

2.8-6 Construction activities could impact nonlisted nesting birds species protected under the federal Migratory Bird Treaty Act. (*Significant, t mitigable*)

Nesting habitat for nonlisted birds protected under the federal Migratory Bird Treaty Act occurs in woodlands, riparian areas, and other areas, and may occur near some MTC projects. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment, and would be considered a significant impact.

Mitigation Measures

At the time of project certification, project sponsors shall agree to comply with mitigation measures to avoid impacts to nesting bird species protected under the federal Migratory Bird Treaty Act, as follows:

2.8(e) Concurrent with surveys described in Mitigation Measure 2.8(d), surveys shall be performed for migratory birds listed in the federal List of Migratory Birds (50 Code of Federal Regulations, Chapter 1, Part 10 §10.13). More than 500 native and migratory bird species are protected by this statute. If protected breeding birds are detected during surveys, a buffer zone, depending upon the species identified, shall be established around active nesting sites in coordination with CDFG.

This mitigation measure would be expected to reduce this potentially significant impact on nonlisted nesting bird species protected under the federal Migratory Bird Treaty Act to a less-than-significant level if incorporated by project sponsors.

Impact

2.8-7 Implementation of the proposed Transportation 2030 Plan could impact adopted resource protection or conservation plans. (*No adverse impact*)

No adopted resource management plans have been developed or apply to lands that are currently considered in this EIR, therefore no conflicts exist with such plans. If such plans were developed at a later time, proposed Transportation 2030 Plan projects that are within resource planning areas would be assessed on an individual basis to ensure consistency with adopted plans. As such, no impact is anticipated.

Cumulative Impact

2.8-8 Forecast urban development that would be served by transportation improvements in the proposed Transportation 2030 Plan, combined with improved regional mobility provided by the Plan, could contribute to the conversion of undeveloped land to urban uses, resulting in the removal or fragmentation of habitat area. (*Significant, unavoidable*)

Future proposed Transportation 2030 Plan implementation combined with forecast urban development in the Bay Area would result in the conversion of currently undeveloped and rural land development. This cumulative scenario, along with other infrastructure improvements, would have significant cumulative regionwide impacts on biological resources. Areas that would be affected include the portions of the North Bay (Napa, Solano, and Sonoma Counties), and Contra Costa, Alameda and Santa Clara counties. Potential cumulative effects include the hastened incremental loss and urbanization of habitat for the California red-legged frog, and California tiger salamander, among other species.

Part Two: Settings, Impacts, and Mitigation Measures
Chapter 2.8: Biological Resources

In addition, other transportation improvements in the proposed Transportation 2030 Plan not identified as having a direct impact on biological resources in the regional context may result in individually minor impacts locally. Collectively, these individually minor impacts on biological resources may become significant over time.

Mitigation Measures

As the cumulative impacts of the transportation improvements in the proposed Transportation 2030 Plan are the same as the direct impacts listed above, the mitigation measures for this impact would also be the same. Generally, these mitigation measures would be expected to reduce this potentially significant cumulative impact on biological resources to a less-than-significant level if incorporated by project sponsors. However, similar to the proposed project direct impacts on sensitive species (Impact 2.8-3), potential cumulative impacts on special status wildlife species would be significant and unavoidable.

Table 2.8-2: Projects that Could Potentially Impact Wetlands, Special Status Plant or Wildlife Species, or Designated or Proposed Critical Habitat

Corridor	Project ID	Investment*	Description	Impacts By Project		
				Wetlands	Special Status Plants or Wildlife	Designated or Proposed Critical Habitat
Delta	98222	N	Rte 4 Bypass, Segment 1: Rte 160 fwy-to-fwy connectors	X	X	X
Delta	98999	N	Widen Rte 4 Ebound from to 8 Ins from Somersville Rd to Rte 160	X	X	
Delta	22604	V	Construct safety and operational impvts on Vasco Rd from Brentwood to Alameda Co line	X	X	X
Delta	22605	V	Rte 4 Bypass: widen and upgrade to full fwy	X	X	X
Delta	22981	V	Widen Rte 4 as continuous 4-In arterial from Marsh Creek Rd to San Joaquin Co line	X	X	
Diablo	21206	N	Caldecott Tunnel fourth bore		X	
Diablo	22602	N	Construct I-680 aux lanes in both directions from Sycamore Valley Rd to Crow Canyon Rd	X		
Diablo	98130	N	Widen Alhambra Ave from Rte 4 to McAlvey Dr to 4 Ins	X		
Diablo	98133	N	Widen Pacheco Blvd from Blum Rd to Arthur Rd to 4 Ins		X	
Diablo	22614	V	Martinez Intermodal Station	X	X	
Eshore-N	22624	C	Construct continuous 4-In Jepson Pwy from Suisun City to Vacaville	X	X	
Eshore-N	22629	C	New Vallejo Ferry Terminal intermodal facility	X	X	
Eshore-N	22986	C	Widen Broadway /b/ Rte 37 and Mini Dr to 4 Ins	X		
Eshore-N	22700	N	Construct parallel corridor N of I-80 from Red Top Rd to Abernathy Rd	X	X	
Eshore-N	22898	N	Widen I-80 from W of Meridian Rd to W of Kidwell Rd to 8 lanes		X	
Eshore-N	94151	N	Construct 4-In Jepson Pwy from Rte 12 to Leisure Town Rd	X	X	X
Eshore-N	22660	V	Widen I-880 /b/ Whipple and Jackson	X		

Table 2.8-2: Projects that Could Potentially Impact Wetlands, Special Status Plant or Wildlife Species, or Designated or Proposed Critical Habitat

Corridor	Project ID	Investment*	Description	Impacts By Project		
				Wetlands	Special Status Plants or Wildlife	Designated or Proposed Critical Habitat
Eshore-N	22670	V	Widen I-880 for HOV lanes Nbound from Hacienda overcrossing to 98th Ave and Sbound from 98th Ave to Marina Blvd	X		
Freemont	22991	C	Widen I-680 for Sbound HOV/HOT In from Rte 237 to Rte 84	X	X	X
Freemont	21132	N	BART extn to Warm Springs	X	X	
Freemont	22042	N	Widen I-680 for Nbound HOV In from Rte 237 to Stoneride Dr	X	X	X
Freemont	22779	N	Rte 262/Warren Ave/ I-880 I/C impvts	X	X	
Freemont	22805	N	Widen Dixon Landing Rd to 6 Ins /b/ N Milpitas Blvd and I-880	X	X	
Freemont	22990	N	Widen Rte 262 from I-880 to Warm Springs Blvd reconstruct Union Pacific RR underpasses	X	X	
Freemont	22668	V	Add Nbound and Sbound I-680 HOV Ins /b/ Rte 84 in Alameda Co to Alcosta Blvd in Contra Costa Co	X	X	X
Freemont	22800	V	BART extn into Santa Clara Co	X	X	
Golden	22655	C	Widen US 101 for HOV Ins from Rohnert Park Expwy to Santa Rosa Ave	X	X	X
Golden	21902	N	Widen US 101 for HOV Ins from Old Redwood Hwy to Rohnert Park Expwy	X	X	
Golden	98147	N	Widen US 101 from Rte 116 E to the Marin/Sonoma Co line from to 6 Ins, upgrade Petaluma Bridge, and convert some hwy sections to fwy standards	X	X	
Golden	98154	N	Widen US 101 from Rte 37 to the Sonoma Co line from to 6 Ins and convert some hwy sections to fwy standards	X	X	
Golden	98183	N	Widen US 101 for HOV Ins /b/ Steele Ln and Windsor River Rd	X		
Golden	21030	V	I-580/US 101 I/C impvts and new fwy-to-fwy connectors from Wbound I-580 to Nbound and Sbound US 101			
Golden	21317	V	Widen Rte 1 from US 101 to Flamingo Rd	X	X	
Golden	22206	V	Construct Rte 12/Fulton Rd I/C		X	
Golden	22207	V	Ext Farmers Ln as from Bellevue Ave to Rte 12	X	X	
Golden	22419	V	Widen US 101 for HOV Ins from Lucky Dr to N San Pedro Rd	X		
Golden	22513	V	SMART commuter rail construction	X	X	
NBay E/W	22626	C	Rte 29/Rte 37 I/C impvts	X	X	
NBay E/W	22899	C	Widen Rte 12 between Suisun City and Rio Vista to 4 Ins	X	X	
NBay E/W	94074	N	Widen Rte 12 (Jamieson Canyon) from I-80 in Solano County to Rte 29 in Napa Co to 4 Ins	X	X	X

Part Two: Settings, Impacts, and Mitigation Measures
Chapter 2.8: Biological Resources

Table 2.8-2: Projects that Could Potentially Impact Wetlands, Special Status Plant or Wildlife Species, or Designated or Proposed Critical Habitat

Corridor	Project ID	Investment*	Description	Impacts By Project		
				Wetlands	Special Status Plants or Wildlife	Designated or Proposed Critical Habitat
NBay E/W	94075	N	Rte 12/Rte 29/Airport I/C construction	X	X	
NBay E/W	94152	N	Widen Rte 12 (Jameson Canyon) from I-80 in Solano County to Rte 29 in Solano Co from to 4 Ins	X	X	X
Peninsula	21613	N	Rte 92 impvts from San Mateo Bridge to I-280	X	X	X
Peninsula	21619	N	Caltrain express tracks	X	X	
Peninsula	22282	N	Widen US 101 Sbound by adding 5th In from Wbound Rte 92 loop on-ramp to Ralston Ave off-ramp	X		
Peninsula	98203	N	Study of Rte 1 in Half Moon Bay area operational and safety impvts	X	X	X
Peninsula	22271	V	Widen Skyline Blvd (Rte 35) to 4-In roadway from I-280 to Sneath Ln	X	X	X
Peninsula	22724	V	Improve Rte 92 from San Mateo Bridge to I-280 (Phase 2)	X	X	X
Peninsula	22729	V	I-280 aux Ins from I-380 to Hickey Blvd	X		
Peninsula	22751	V	Rte 1 operational and safety impvts in Half Moon Bay area	X	X	X
Peninsula	94644	V	Rte 92 Wbound slow vehicle In /b/ Rte 35 and I-280	X	X	X
Peninsula	21610	V	US 101 aux Ins from San Bruno Ave to Grand Ave	X		
Silicon	21713	N	Construct aux In on Ebound Rte 237 from N First St to Zanker Rd	X	X	
Silicon	21716	N	Widen Rte 237 from to 6 Ins for HOV Ins /b/ Rte 85 and Eof Mathilda Ave	X		
Silicon	21717	N	Widen Rte 25 from US 101 to Rte 156 from to 6 Ins	X	X	
Silicon	21718	N	Rte 85 Nbound and Sbound aux Ins /b/ Homestead Ave and Fremont Ave	X		
Silicon	22012	N	Rte 237 Ebound aux In impvt from N First St to Zanker Rd		X	
Silicon	22118	N	Ext Hill Rd to Peet Ave		X	
Silicon	22134	N	Widen US 101 Sbound from Story Rd to Yerba Buena Rd			X
Silicon	22138	N	Widen US 101 to 4 Ins from Rte 25 to Santa Clara/San Benito Co line	X	X	
Silicon	22140	N	Widen US 101 /b/ Cochrane Rd and Monterey Hwy from to 8 Ins	X	X	
Silicon	22153	N	Ext Mary Ave N across Rte 237	X	X	
Silicon	22175	N	Widen Almaden Expwy /b/ Coleman Rd and Blossom Hill Rd to 8 Ins	X	X	
Silicon	22176	N	Widen Berryessa Road from I-680 to Commercial St to 6 Ins	X	X	
Silicon	22177	N	Widen Branham Ln from Vista Park Dr to Snell Ave to 6 Ins	X	X	

Table 2.8-2: Projects that Could Potentially Impact Wetlands, Special Status Plant or Wildlife Species, or Designated or Proposed Critical Habitat

Corridor	Project ID	Investment*	Description	Impacts By Project		
				Wetlands	Special Status Plants or Wildlife	Designated or Proposed Critical Habitat
Silicon	22185	N	Widen Oakland Rd to 6 Ins from US 101 to Montague Expwy	X	X	
Silicon	22823	N	Widen Snell Ave to 6 Ins from Branham Ln to Chynoweth Ave		X	
Silicon	22832	N	Widen Rte 152 to 4 Ins from Miller Slough to Holsclaw Rd	X	X	
Silicon	22834	N	Widen Rte 237 for Ebound aux In from Mathilda Ave to Fair Oaks Ave		X	
Silicon	22857	N	Widen US 101 for a Sbound aux In from I-880 to McKee Rd/Julian St	X	X	
Silicon	22871	N	Ext 2-In Uvas Park Dr from Laurel Dr to Wren Ave	X	X	
Silicon	22885	N	Ext Los Gatos Creek Trail on W side from Hamilton Ave to Campbell Ave	X	X	
Silicon	22886	N	Widen McKean Rd shoulders to accommodate bicycle impvts	X	X	X
Silicon	22887	N	Widen S side of Moody Rd from Elena Rd Wbound by 1,500 feet to accommodate bicycle and pedestrian impvts	X	X	
Silicon	22888	N	Widen King Rd to 4 Ins from Aborn Rd and Barberry Ln		X	
Silicon	22892	N	Widen US 101 Sbound aux In from Great America Pwy to Lawrence Expwy		X	
Silicon	22893	N	Widen US 101 for a Nbound aux In from McKee/Julian St to I-880	X	X	
Silicon	98103	N	Construct aux In on Nbound Rte 17 from Camden Ave to Hamilton Ave	X	X	
Silicon	98175	N	Widen Montague Expwy from 6 Ins to 8 Ins (6 mixed-flow and 2 HOV Ins) from I-680 to US 101	X	X	
Silicon	21770	V	Ext Caltrain from Gilroy to Salinas	X	X	
Silicon	22091	V	Upgrade Rte 152 to a limited access 4-In fwy	X	X	X
Silicon	22130	V	Rte 85 Nbound and Sbound aux Ins from Saratoga Ave to Winchester Blvd	X		
Silicon	22158	V	Rte 85 aux Ins between Fremont Ave and El Camino Real	X		
Silicon	22945	V	Construct Aldercroft Creek Bridge on Old Santa Cruz Hwy	X	X	
Silicon	22960	V	Widen Almaden Rd from Malone Rd to Curtner Ave to accommodate pedestrians	X	X	
Silicon	22965	V	US 101/Mabury Rd/Taylor Street I/C construction	X	X	
Silicon	22983	V	US 101/Zanker Rd/Skyport Dr/Fourth St I/C construction		X	
Sonoma Co-wide	22192	V	Widen Airport Blvd to 4 Ins	X	X	

Part Two: Settings, Impacts, and Mitigation Measures
Chapter 2.8: Biological Resources

Table 2.8-2: Projects that Could Potentially Impact Wetlands, Special Status Plant or Wildlife Species, or Designated or Proposed Critical Habitat

Corridor	Project ID	Investment*	Description	Impacts By Project		
				Wetlands	Special Status Plants or Wildlife	Designated or Proposed Critical Habitat
Sunol	22897	N	Widen I-680 Nbound for an HOV In from Rte 84 to Calavaras Blvd	X	X	X
Sunol	98139	N	ACE station/track impvts in Alameda Co	X	X	X
Transbay Bridge	22002	N	Ext HOV In on I-880 Nbound from existing HOV terminus at Bay Bridge approach to Maritime on-ramp	X	X	
Tri-Valley	22796	C	Construct 4-In arterial connection /b/ future E end of Dublin Blvd in Dublin to N Canyons Pwy in Livermore	X	X	X
Tri-Valley	22013	N	I-580 corridor impvts	X	X	X
Tri-Valley	22776	N	Widen Rte 84 to 4 lns from N of Pigeon Pass to Vineyard Ave and to 6 lns from Vineyard Ave to Jack London Blvd	X	X	X
Tri-Valley	22664	V	I-580 HOT lns from Greenville Rd west to I-680	X	X	
Tri-Valley	22666	V	Rte 84 HOT lns in Tri-Valley	X	X	X

Source: ESA; CNDDDB, 2004; USFWS, 2004a; USFWS, 2004b

* C=Committed Project, N=New Commitment Project, V=Vision Element Project

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2.9 Visual Resources

The San Francisco Bay Area contains some of the most recognizable natural and built views in the world. Important views of natural features include the Pacific coast, San Francisco Bay, Mount Tamalpais, Mount Diablo, and other peaks and inland valleys of the Coast Range. Enclosed views like those along roads winding through redwood groves, and broader views of the ocean and lowlands, such as along ridgetops, are in abundance in the Bay Area. Cityscape views offered by buildings and distinctive Bay Area bridges are also important built visual resources to the region. Transportation facilities have the potential to affect both what is seen and how it is seen.

This chapter describes the visual resources of the San Francisco Bay Area and the impacts that projects in the proposed Transportation 2030 Plan could have on those resources. This analysis focuses specifically on views from the road and transit corridors and on views from public viewing areas and existing land uses along travel corridors.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

The landscapes of the San Francisco Bay Area are varied, unique, and recognized by many in the region and beyond. The basin formed by the coastal range, East Bay Hills, and the Bay itself are prominent physical features of the region. To the west the Pacific Ocean and the Coastal Range, stretching from Mt. Tamalpais in the north to the Santa Cruz Mountains in the south, dominate the visual setting. To the east the Diablo Range, dramatically punctuated by Mount Diablo, provides a much different character. In the north, the vineyards of Napa and Sonoma counties are unique and draw visitors from around the world. Many built features in the Bay Area, the Golden Gate and Bay Bridges and the San Francisco skyline in particular, are also of international renown. Bay Area residents and tourists alike treasure the variety and quality of the visual experiences that are found along many transportation corridors in the region, from heavily traveled freeways, transit lines, and ferries, to narrow country roads through secluded forests and agricultural areas. Major transportation projects may affect the visual experiences of travelers and the distinctive visual environment of the region.

The variety of natural features, their topographic variation and the different types of development provide the Bay Area with significant visual resources. The Bay Area sits along the Pacific coast with several branches of the Coast Range dividing it into valleys, plains and water bodies. The largest of these valleys contains San Francisco Bay while at the eastern edge of the region is the great Central Valley, an extremely flat plain lying between the Coast Range and the Sierra Nevada Mountains. The hills of the Coast Range provide expansive views of the valleys and plains below, revealing a variety of development types, including urban areas along the Bay plains and inland valleys, agricultural lands and protected open space, and natural areas.

Hills and Valleys

The region contains several distinct ranges and hills. Between the Pacific Ocean and San Francisco Bay lie the coastal hills of San Mateo, Santa Clara, and Marin Counties. The East Bay Hills rise steeply from the urbanized plain along the eastern edge of the Bay forming a several mile wide band that also defines the western edge of the Diablo and Livermore Valleys of Contra Costa and Alameda Counties. The rolling hills of the Diablo Range separate these valleys from the lowlands of the Central Valley. At the south end of the Bay Area in Santa Clara County, these hills converge. To the north, several ranges frame the Napa, Sonoma and Cotati valleys.

Between these ranges and hills are numerous valleys, both broad and narrow. San Francisco Bay, for example, is bordered along the east and west by a narrow, heavily urbanized plain. This plain widens in the south into the Santa Clara Valley, which until World War II was primarily agricultural. The East Bay and coastal hills, which are visible throughout these lowlands, orient the traveler and give a sense of scale to the surrounding urban areas. Likewise to the north, the hills forming the Sonoma, Napa, and Cotati Valleys enclose these agricultural areas with urban pockets.

Landmarks and Gateways

Certain features of the Bay Area stand out as symbols and points of orientation. These landmarks include the Golden Gate and Bay Bridges, San Francisco skyline, several large buildings in the East Bay Hills (the Campanile on the U.C. Berkeley campus, the Claremont Hotel and the Mormon Temple in Oakland, for example), and Mount Saint Helena at the northern end of the Napa Valley. These landmarks help travelers to locate themselves within the region, and in the case of the Golden Gate Bridge, symbolize the Bay Area for the rest of the world.

Likewise, several points along the roadways and rail lines of the Bay Area serve as visual gateways to the region or parts of it. The rest area on I-80 above Vallejo, the west end of the Caldecott Tunnel, and "hospital curve" along Highway 101 in San Francisco offer dramatic views of notable Bay Area landscapes.

Views from Transportation Corridors

Many roadways and rail lines provide expansive, regional views of surrounding areas, often due to their wide rights-of-way, location along high points, elevation of the facilities, or a combination of these factors. Examples include I-280 along the Peninsula, Highway 92 as it crosses the coastal range, I-80 near Rodeo, I-580 over the Altamont Pass and above Oakland, and the Route 24 corridor. The bridges crossing San Francisco Bay and the San Joaquin River offer similar experiences. Both the Bay and Golden Gate Bridge provide world-famous views of San Francisco while the Richmond-San Rafael Bridge includes sweeping views of the North Bay, including Mount Tamalpais and Angel Island. The Antioch Bridge allows views out over the Sacramento Delta.

Similarly, rail facilities (including BART) can provide travelers with broad views of the region or portions of it. The elevated BART lines through the East Bay, for example, give good views of the East Bay Hills and the neighborhoods of Oakland, Berkeley, El Cerrito, etc. The Amtrak rail lines

along San Pablo Bay and the San Joaquin River also provide broad views of the water with the hills beyond.

Roads and rail lines also provide more intimate views of forested hills or narrow valleys. Highway 35 (along the crest of the San Mateo Peninsula) and Highway 84 (through the narrows of Niles Canyon) are examples of such views. Similarly, Highway 1 and Sir Francis Drake Boulevard run through the forests and grasslands of Marin County to the beaches, parks, and open space areas along the coast. Highway 29 and the Silverado Trail through the Napa Valley and Highway 12 through the Sonoma Valley provide dramatic views of enclosing hills, adjoining vineyards, and the wineries.

Finally, while carrying only a small portion of the region's travelers, the use of the Bay ferries can be attributed, in part, to the spectacular viewing experiences afforded by this mode of transport.

Views of the Road

While roads and rail lines can provide access to view for travelers, these facilities can also detract from or block views for others, particularly those who live or work near such facilities. A new or expanded roadway along a hillside can be visible from a great distance, changing the impression of the hillside for the viewer, particularly if the hillside is undeveloped. Also, new roads and rail lines are often built above the level of existing development, which can overshadow nearby homes and businesses and limit views from them to the surrounding hills and valleys.

REGULATORY SETTING

Scenic Roads

Recognizing the value of scenic areas and the value of views from roads in such areas, the State Legislature established the California Scenic Highway Program in 1963. This legislation sees scenic highways as "a vital part of the all encompassing effort...to protect and enhance California's beauty, amenity and quality of life." Under this program, a number of State highways have been designated as eligible for inclusion as scenic routes. Once the local jurisdictions through which the roadway passes have established a corridor protection program and the Departmental Transportation Advisory Committee recommends designation of the roadway, the State may officially designate roadways as scenic routes. Interstate highways, state highways, and county roads may be designated as scenic under the program. *The Master Plan of State Highways Eligible for Official Scenic Highway Designation* maps designated highway segments, as well as those that are eligible for designation. Changes to the map require an act of the legislature.

As noted, a corridor protection program must be adopted by the local governments with land use jurisdiction through which the roadway passes as the first step in moving a road from "eligible" to "designated" status. Each designated corridor is monitored by the State and designation may be revoked if a local government fails to enforce the provisions of the corridor protection program. At a minimum, each corridor protection program must include:

- Regulation of land use and density of development;
- Detailed land and site planning;

- Control of outdoor advertising devices;
- Control of earthmoving and landscaping; and
- Regulation of the design and appearance of structures and equipment.

The *Master Plan of State Highways Eligible for Official Scenic Highway Designation* requires that proposed realignments and route improvements be evaluated for their impact on the scenic qualities of the corridor.

The Bay Area includes several designated or eligible scenic highways included on the State Master Plan. Officially designated State Scenic Highways are illustrated in Figure 2.9-1 and include:

- Highway 1, from Half Moon Bay south to Santa Cruz County Line;
- Highway 9, from Los Gatos north to Santa Cruz County Line;
- Highway 12, through the Valley of the Moon;
- Highway 24, from the Caldecott Tunnel east to I-680;
- Highway 35, from Highway 92 south to Santa Clara County Line;
- Highway 116, from Highway 1 south to City of Sebastopol City Limit;
- I-280, from San Bruno (I-380) south to Santa Clara County Line;
- I-580, from Highway 24 south to San Leandro City Limit; and
- I-680, from Highway 24 south to Santa Clara County Line.

Highways mapped as eligible for scenic designation include:

- SR 1, from Half Moon Bay north to SR 35;
- SR 1, from SR 35 to Highway 101 near Golden Gate Bridge;
- SR 1, from Marin County Line north to Sonoma County Line;
- SR 4, from SR 160 south to Sellers Avenue;
- SR 9, from SR 85 south to SR 17;
- SR 12, from Highway 101 to SR 121;
- SR 17, from Monte Sereno to Santa Clara County Line;
- SR 29, from SR 37 north to Napa County Line;
- SR 35, from I-280 to SR 1;
- SR 35, from SR 9 to Santa Clara County Line;
- SR 37, from Highway 101 to SR 29;

- SR 37, from SR 1 to Highway 1011;
- SR 84, from SR 238 to I-680;
- SR 116, from SR 12 to Highway 101;
- SR 152, from Santa Clara County Line to SR 156;
- I-80, from I-280 to SR 612;
- I-280, from SR 17 to the Santa Clara County line; and
- I-680, from SR 238 to Alameda County Line.

Counties and municipalities also have scenic route components within their individual general plans. Policies usually encourage the designation of these roadways as scenic corridors, either by local action or through the State program. Counties and municipalities may also establish regulatory programs or recommend corridor studies to determine the appropriate regulatory program to preserve scenic quality.

Scenic Resources

In addition to establishing provisions for scenic roads, city and county general plans may include policies for protection of scenic resources, such as hillsides, natural areas, and historic districts. Such policies may restrict new development in areas that maintain scenic vistas.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

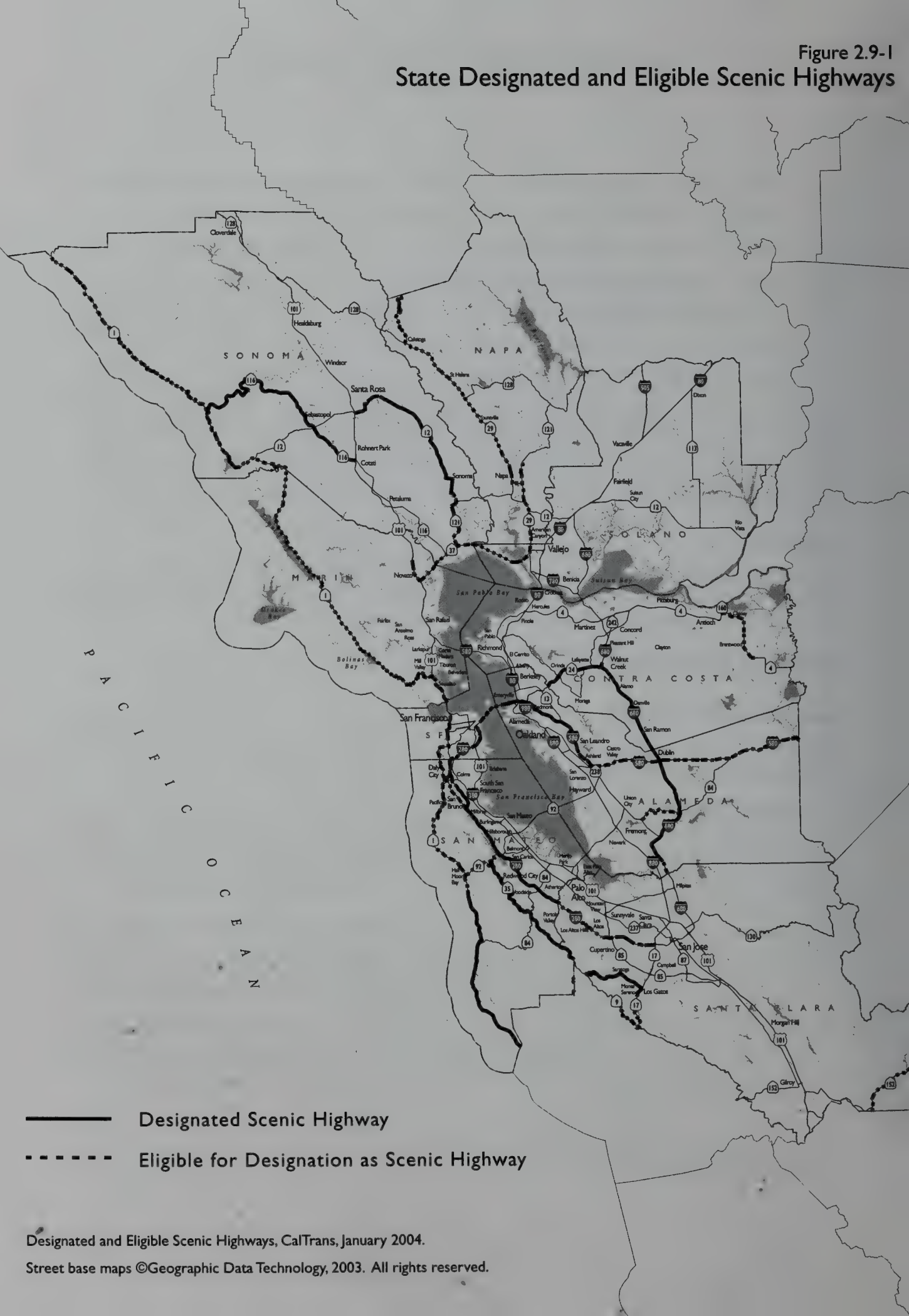
This EIR uses the following criteria to assess whether the proposed Transportation 2030 Plan will have a significant adverse affect on visual resources in the Bay Area:

- **Criterion 1: Blocks panoramic views of significant features.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact where transportation projects block panoramic views or views of significant landscape features or landforms (mountains, oceans, rivers, or significant man-made structures) as seen from the transportation facility or from public viewing areas.
- **Criterion 2: Alters the appearance of area near scenic highways.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact where transportation projects alter the appearance of or from state- or county-designated or eligible scenic highways. Such projects would be judged against a higher standard for visual impacts.
- **Criterion 3: Creates significant contrasts.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact where transportation projects create significant contrasts with the scale, form, line, color and/or overall visual character of the existing landscape setting.

¹ This segment of SR37 is not yet constructed.

² SR61 in this location is not yet constructed.

Figure 2.9-1
State Designated and Eligible Scenic Highways



- Designated Scenic Highway
- - - - - Eligible for Designation as Scenic Highway

- **Criterion 4: Adds an incongruous visual element.** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact where transportation projects add a visual element of urban character to an existing rural or open space area or add a modern element to a historic area.

Generally, the greater the change from existing conditions, the more significant the impact. For example, the construction of a new interchange usually has a greater impact than the modification of an existing one. Likewise, the construction of a new roadway generally has a greater visual impact than the widening of an existing one. Road widening, however, can have significant local impacts where they would require the removal of trees and other important landscape buffers or where they require the construction of sound walls or other contrasting visual elements.

METHOD OF ANALYSIS

The visual impacts of the construction of the transportation projects in the proposed Transportation 2030 Plan will be of two general types: changes in views for drivers; and changes in views for land uses along the roadways, transit corridors, and public viewing areas. Visual impacts were assessed by comparing the proposed Transportation 2030 Plan network to existing conditions. This methodology first involved elimination of projects that would not involve construction or would not significantly change the physical configuration of existing transportation facilities, since such projects are unlikely to have effects on views. Examples of projects that involve construction but would not substantially modify existing facilities include seismic upgrades, safety improvements, signalization projects, freeway carpool lanes that do not require roadway widening, and roadway rehabilitation. Next, the remaining projects were reviewed to determine if they are located on eligible or designated scenic highway segments or if they could significantly change the character of other important visual resources. Physical alteration may result in visual contrast, loss of vegetation, variation in design or streetscape, etc.

The types of impacts associated with individual projects are identified in this chapter; however, project-specific impacts cannot be assessed at this time without detailed project plans, elevations, landscaping plans, etc.

SUMMARY OF IMPACTS

Many of the capacity enhancing transportation improvements in the proposed Transportation 2030 Plan would have an effect on the visual character of the surrounding area or on views from a facility itself. Projects that could significantly alter views from and views of transportation facilities in the Bay Area include freeway and highway widenings, new freeway interchanges, and new rail lines (either light or heavy rail). Significant impacts would occur where the projects would block existing views or alter the appearance of a facility or the area that surrounds a facility.

Direct Impacts

Implementation of the transportation improvements in the proposed Transportation 2030 Plan could result in both short term and long term visual impacts.

Short Term Impacts

The construction of proposed projects could result in short-term visual impacts from the blockage of views by construction equipment and scaffolding, the removal of landscaping, and other construction activities that impair local views.

Long Term Impacts

Projects in the proposed Transportation 2030 Plan that would have a long term visual impact include freeway or highway widenings on or adjacent to designated or eligible scenic highway segments, some interchange overcrossing projects, and rail transit extensions and stations. While there are no restrictions on scenic highway projects, local agencies and Caltrans must work together to coordinate projects and ensure the protection of the scenic value to the greatest extent possible.³ In some cases, local governments have their own land use and site planning regulations in place to protect scenic values along a designated corridor. Both the impact of a facility on the landscape as well as the visual appearance of a facility itself are considered.⁴ On scenic highways, a pleasing appearance is as important a consideration as is safety, utility, and economy.

Some projects may require the installation of soundwalls to mitigate noise impacts on adjacent residential development or other sensitive land uses. Soundwalls may have visual impacts for roadway users and adjacent communities.

Indirect/Cumulative Impacts

Implementation of the proposed Transportation 2030 Plan could result in indirect visual impacts by serving forecast urban development that could, when it occurs, significantly change the visual character of some areas adjacent to the region's existing urban limits, especially where new development would occur on visually prominent hillsides or in existing, visually open, rural lands. To the extent that the transportation improvements in the proposed Transportation 2030 Plan, in aggregate, would serve new forecast urban development, they would add to cumulative regional impacts. In addition, other transportation improvements in the Transportation 2030 Plan not identified as having a direct visual impact in the regional context may result in individually minor visual impacts locally. Collectively, these individually minor visual impacts may become significant over time.

³ State law requires the undergrounding of all visible electric distribution and communication utilities within 1,000 feet of a Scenic Highway.

⁴ Caltrans. *Guidelines for Official Designation of Scenic Highways*. November 1990, p. 14.

SIGNIFICANT IMPACTS AND MITIGATION MEASURES

IMPACTS & MITIGATION

Impact

- 2.9-1 Construction of new and expanded transportation projects could affect visual resources during the period of construction. (*Significant, mitigable*)

The construction of projects in the proposed Transportation 2030 Plan could result in short-term visual impacts from the blockage of views by construction equipment and scaffolding, the removal of landscaping, temporary route changes, temporary signage, exposed excavation and slope faces, and construction staging areas. Many of the projects in the proposed Transportation 2030 Plan will not result in significant construction impacts, as they involve efforts that revolve around transit route improvements, road maintenance and pedestrian and bicycle improvements. However, numerous major capital projects have the potential to result in substantial visual impacts during construction.

Mitigation

- 2.9(a) Typical mitigation measures used to minimize short term visual impacts include reducing the visibility of construction staging areas where possible and fencing and screening these areas with low contrast materials consistent with the surrounding environment. Graded slopes and exposed earth surfaces should be revegetated at the earliest opportunity.

Impact

- 2.9-2 Construction of certain improvements in the proposed Transportation 2030 Plan could affect visual resources by adding or expanding transportation facilities in rural or open space areas, blocking views from adjoining areas, blocking or intruding into important vistas along roadways, and changing the scale, character, and quality of designated or eligible Scenic Highways. (*Significant, unavoidable*)

Table 2.9-1 identifies proposed projects in the Transportation 2030 Plan that could result in potentially significant visual impacts along or adjacent to a state-designated scenic highway, or a highway eligible for such designation. Overall, the greatest impacts would occur in the Peninsula corridor where 10 projects would have potentially significant effects on the visual character of land adjacent to designated scenic highways or highways eligible for designation.

In addition to projects along scenic highways, there are additional highway widenings and new construction that would have the potential to affect rural or scenic vistas or change the character of existing views. For example, a highway widening could result in the removal of mature trees that serve to block views of the highway from adjacent land uses along the right-of-way. Without knowing the details of proposed projects, it is not possible to further identify the potential locations of possible visual impacts.

Many other projects would have no impact on visual resources. These projects include non-construction, minor rehabilitation, and some local arterial projects.

Table 2.9-1: Transportation 2030 Projects with Potentially Significant Visual Impacts in Scenic Corridors

<i>Project ID</i>	<i>Corridor</i>	<i>Description and Investment Type*</i>	<i>Potential Impact</i>
98222	Delta	Rte 4 Bypass, Segment 1: Rte 160 freeway-to-freeway connectors to and from the north (V)	Increased visual contrast with adjoining lands and open space.
21206	Diablo	Caldecott Tunnel fourth bore (N)	Changed open space character of the hillsides and increased visual contrast.
22602	Diablo	Construct I-680 aux lns in both directions from Sycamore Valley Rd to Crow Canyon Rd (N)	Increased visual contrast with adjoining lands and open space.
98196	Diablo	Rte 24 EB aux lanes from Gateway Blvd to Brookwood Rd/Moraga Way (N)	Increased visual contrast with adjoining lands and open space.
22353	Diablo	I-680 SB HOV gap closure between North Main St and Livorna (C)	Increased visual contrast with adjoining lands and open space.
22038	Eastshore-North	San Francisco-Oakland Bay Bridge toll plaza HOV bypass lanes (N)	Widened bridge approach at the toll plaza could block views of the Bay.
22991	Fremont-South Bay	Widen I-680 for SB HOV/HOT lane from Rte 237 to Rte 84 (includes ramp metering and auxiliary lanes) (C)	Widening would change the visual character and increase contrast with adjoining urban lands and open space.
22042	Fremont-South Bay	Widen I-680 for NB HOV lane from Rte 237 to Stoneridge Dr (includes ramp metering and auxiliary lanes) (N)	Widening would change the visual character and increase contrast with adjoining urban lands and open space.
22668	Fremont-South Bay	Add NB and SB I-680 HOV lanes between Rte 84 in Alameda Co to Alcosta Blvd in Contra Costa Co (V)	Freeway widening would change the visual character and increase contrast with adjoining open space.
22779	Fremont-South Bay	Rte 262/Warren Ave/I-880 I/C improvements (Phase 2) (N)	New visual element could block views from adjoining areas.
21317	Golden Gate	Widen Route 1 from US 101 to Flamingo Rd (V)	Increased visual contrast with adjoining lands and open space.
22513	Golden Gate	Sonoma Marin Area Rail Transit District (SMART) commuter rail construction (V)	New rail and stations in scenic areas.
22193	Golden Gate	Construct Forestville bypass on Rte 116 (V)	Changed visual character of a rural area.
22655	Golden Gate	Widen US 101 for HOV lanes from Rohnert Park Expwy to Santa Rosa Ave (C)	Increased visual contrast with adjoining lands and open space.
22746	Napa Valley	Widen Rte 29/First St overcrossing to 4 lanes (V)	New visual element in the corridor could block views from adjoining areas.
94073	North Bay East-West	Construct new SB Rte 221 to SB Rte 29 flyover (including aux lane to Rte 12/Rte 29) (N)	New visual element in the corridor could block views from adjoining areas.
94075	North Bay East-	Rte 12/Rte 29/Airport I/C construction (N)	New visual element in the corridor.

Table 2.9-1: Transportation 2030 Projects with Potentially Significant Visual Impacts in Scenic Corridors

<i>Project ID</i>	<i>Corridor</i>	<i>Description and Investment Type*</i>	<i>Potential Impact</i>
	West		
22626	North Bay East-West	Rte 29/Rte 37 I/C improvements (includes new 4-lane fwy /b/ Enterprise St and Diablo St) (C)	New visual element in the corridor.
22231	Peninsula	Widen N side of John Daly Blvd/I-280 overcrossing for additional WB traffic ln and dedicated right-turn ln for SB I-280 off-ramp (V)	New visual element in the corridor could block views from adjoining areas.
22239	Peninsula	Study of Manor Dr/Rte I overcrossing widening and improvement project (N)	New visual element in the corridor could block views from adjoining areas.
22271	Peninsula	Widen Skyline Blvd (Rte 35) to 4-lane roadway from I-280 to Sneath Ln(V)	Widening could increase visual contrast with adjoining rural lands and open space. Some tree loss also may occur.
98203	Peninsula	Study of Rte I in Half Moon Bay area operational and safety improvements (V)	Widening a highway could increase visual contrast with rural lands.
22724	Peninsula	Improve Rte 92 from San Mateo Bridge to I-280 (Phase 2) (V)	Increased visual contrast with adjacent scenic lands.
22729	Peninsula	I-280 aux lanes from I-380 to Hickey Blvd (V)	Increased visual contrast with adjoining lands and open space.
94644	Peninsula	Rte 92 WB slow vehicle lane between Rte 35 and I-280 (V)	Widening could increase visual contrast with adjoining rural lands and open space.
21613	Peninsula	Rte 92 improvements from San Mateo Bridge to I-280, includes uphill passing lane from US 101 to I-280 (Phase I) (N)	Widening could increase visual contrast with adjoining rural lands and open space.
21619	Peninsula	Caltrain express tracks (Phase 2) (N)	Increased visual contrast with adjoining lands and open space.
22010	Silicon Valley	Construct I-280 NB second exit lane to Foothill Expwy (N)	Increased visual contrast with adjoining lands and open space.
22091	Silicon Valley	Upgrade Rte 152 to a limited access 4-lane fwy (V)	Widening could increase visual contrast with adjoining rural lands and open space.
22186	Silicon Valley	Widen San Tomas Expwy between Rte 82 and Williams Rd to 8 lanes (N)	Increased visual contrast with adjoining lands and open space.
22843	Silicon Valley	Widen Lawrence Expwy /b/ Moorpark/Bollinger and S of Calvert to 8 lns (N)	Widening could increase visual contrast with adjoining development.
98140	Sunol Gateway	Widen I-680 NB for an HOV lane from Rte 84 to Calaveras Blvd (N)	Widening could increase visual contrast with adjoining development.
98139	Sunol Gateway	ACE station/track improvements and additional parking in Alameda Co (N)	Increased hardscape and changed visual character of the corridor.
98140	Sunol	I-680 Sunol Grade SB HOV lns, ramp metering	Increased visual contrast with adjoining

Table 2.9-1: Transportation 2030 Projects with Potentially Significant Visual Impacts in Scenic Corridors

Project ID	Corridor	Description and Investment Type*	Potential Impact
	Gateway	and aux lane from Rte 84 to Rte 237 (C)	lands and open space.
22013	Tri-Valley	I-580 corridor improvements (includes widen I-580 for HOV and aux lanes from Tassajara Rd to Greenville Rd) (N)	Increased visual contrast with adjoining lands and open space.
22785	Tri-Valley	Construct I-580 EB aux lane from First St to Vasco Rd (C)	Widening could increase visual contrast with adjoining development.
22664	Tri-Valley	I-580 HOT lane s from Greenville Rd W to I-680 (V)	Increased visual contrast with adjoining lands and open space.
22666	Tri-Valley	Rte 84 HOT lanes in Tri-Valley (V)	Increased visual contrast with adjoining lands and open space.

*C= Committed Project, N= New Commitment Project, V= Vision Element Project

Source: Dyett & Bhatia, 2004

Mitigation

2.9(b) Project sponsors shall commit to mitigation measures at the time of certification of their project environmental document. These commitments obligate project sponsors to implement measures that would minimize or eliminate any significant visual impacts. Typical mitigation measures that could be considered by project sponsors include:

- Design projects to minimize contrasts in scale and massing between the project and surrounding natural forms and development. Site or design projects to minimize their intrusion into important view sheds.
- Use natural landscaping to minimize contrasts between the project and surrounding areas. Wherever possible, develop interchanges and transit lines at the grade of the surrounding land to limit view blockage. Contour the edges of major cut and fill slopes to provide a more natural looking finished profile.
- Design landscaping along highway corridors to add significant natural elements and visual interest to soften the hard edged, linear travel experience that would otherwise occur.
- Complete design studies for projects in designated or eligible Scenic Highway corridors. Consider the “complete” highway system and develop mitigation measures to minimize impacts on the quality of the views or visual experience that originally qualified the highway for Scenic designation.

These mitigation measures would be expected to reduce potentially significant impacts on visual resources to a less-than-significant level if incorporated by project sponsors. It is not expected that these mitigation measures would eliminate all visual impacts, and the implementation of some transportation improvements in the proposed Transportation 2030 Plan may result in visual changes that could be considered adverse and significant by some viewers.

Impact

- 2.9-3** The construction of soundwalls along freeways and arterials, where they are used to reduce noise levels in surrounding residential areas, could significantly alter views from the road reducing visual interest and sense of place while also limiting views and sunlight from adjoining areas. (*Significant, unavoidable*)

The proposed soundwall programs in Alameda and Santa Clara counties, along with other soundwalls that may be built to mitigate noise impacts of freeways and highway expansion projects, would affect the visual character of the streetscapes, highway and freeway corridors where these programs are implemented. Architectural relief, landscaping and visual screening, which are now customary requirements, for new soundwall programs would soften the contrasts, but views into neighborhoods would be blocked by these programs. Because the full scope of these programs has not yet been established, the physical extent of view blockage is unknown at this time. Nonetheless, this would be a significant visual impact.

Mitigation

2.9(c) Transportation project sponsors should consider the following mitigation measures to minimize significant visual impacts:

- Replace and renew landscaping to the greatest extent possible along corridors with road widenings, interchange projects and related improvements. Plan landscaping in new corridors to respect existing natural and man-made features and to complement the dominant landscaping of surrounding areas.
- Where possible, develop new or expanded roadways below the grade of surrounding areas to minimize the need for tall soundwalls.
- Construct soundwalls of materials whose color and texture complements the surrounding landscape and development.
- Where there is room, landscape the soundwalls with plants that screen the soundwall, preferably with either native vegetation or landscaping that complements the dominant landscaping of surrounding areas.

These mitigation measures are not expected to reduce this potentially significant impact on visual resources to a less-than-significant level in all cases. As such, this impact would likely remain significant, depending upon the extent, design, and specific location of the soundwalls.

Cumulative Impact

- 2.9-4** Forecast urban development that would be served by transportation improvements in the proposed Transportation 2030 Plan could significantly change the visual character of many areas in the region, especially where development would occur on visually prominent hillsides or in existing rural or open space lands. (*Significant, unavoidable*)

ABAG's *Projections 2003* anticipates that new development would convert approximately 65,000 acres to urban or suburban residential use. Although some proportion of this land would be converted from commercial, industrial or military use, a substantial portion would represent "greenfields" development and, as such, represent a change in the open space character of the region. Further, much of the developable flat land in the Bay Area has already been converted to urban use, and the remaining development opportunities include hillside sites as well as rural land. However, urban limit lines have been established by many Bay Area communities to protect remaining open space, which will limit unanticipated consequences of development and resulting visual impacts. Therefore, urban limit lines may partially limit this impact. Table 2.9-2 shows that the proportion of total land in the region that will be developed for urban uses is only expected to increase from 18 to 19 percent, which is largely due to the assumptions about a compact land use pattern made for *Projections 2003*.

Table 2.9-2: Percent Developed Land By County, 2000-2030

County	2000	2005	2010	2015	2020	2025	2030
San Francisco	51%	51%	51%	51%	52%	52%	53%
San Mateo	29%	30%	30%	31%	31%	31%	31%
Santa Clara	20%	20%	20%	20%	21%	21%	21%
Alameda	28%	29%	30%	30%	30%	30%	31%
Contra Costa	23%	24%	24%	25%	25%	26%	26%
Solano	12%	12%	13%	13%	13%	13%	13%
Napa	5%	5%	5%	5%	5%	5%	5%
Sonoma	17%	18%	18%	18%	18%	18%	18%
Marin	12%	12%	12%	12%	12%	12%	12%
Region	18%	18%	19%	19%	19%	19%	19%

Source: ABAG, *Projections 2003*

Mitigation

Local land use agencies are responsible for the approval of forecast urban development. These agencies should apply development standards and guidelines to maintain compatibility with surrounding natural areas, including site coverage, building height and massing, building materials and color, landscaping, site grading, etc., in visually sensitive sites areas.

This mitigation measure is not expected to reduce this potentially significant cumulative impact on visual resources to a less-than-significant level, since the cumulative effect of forecast development would be to alter the visual character of many parts of the Bay Area over the next 25 years.

2.10 Cultural Resources

This chapter evaluates the potential impacts on cultural resource resulting from the implementation of the proposed Transportation 2030 Plan. In the context of this EIR, cultural resources are described as the material remains identified with either the prehistoric inhabitants of the area (any time prior to the arrival of the Spanish in the latter half of the 18th century) or with the historic inhabitants. The historic period begins with the arrival of the Spanish and continues up to 45 years ago, a definition that is recognized under both CEQA and NEPA guidelines. While there are procedural differences between the State and federal guidelines, both establish the conditions under which a particular resource is significant and requires mitigation as part of a proposed plan or project.

ENVIRONMENTAL SETTING

PHYSICAL SETTING

This section summarizes both historic and prehistoric resources and identifies the types of geographic areas that may contain cultural resources.

Prehistoric Resources

Prehistoric cultural resources are composed of Native American structures or sites of historical or archaeological interest. These may include districts, buildings, objects, landscape elements, sites, or features that reflect human occupations of the region, such as villages and burial grounds.

The moderate climate, combined with the abundant natural resources found throughout the nine-county region, has supported human habitation for several thousand years Before Present (BP). Some theories suggest that the prehistoric bay and river margins were inhabited as early as 10,000 years ago (EIP Associates, 1993). Rising sea levels, the formation of the San Francisco Bay, and the resulting filling of inland valleys have covered these early sites, which were most likely located along the then existing bayshore and waterways. Existing evidence indicates the presence of many village sites from at least 5,000 years BP in the region. The arrival of Native Americans into the Bay Area is associated with documented cultural resources from circa 5,500 BP (U.S. Dept. of Interior, 1990).

Six different groups of Native population, identified by their language, lived within the Bay Area, including Costanoan, Eastern Miwok, Patwin, Coast Miwok, Pomo and Wappo. These Native populations periodically increased between 5,000 BP and the arrival of the Spanish in the late 18th century. Native villages and campsites were inhabited on a temporary basis and are found in several ecological niches due to the seasonal nature of their subsistence base.

By the end of the first millennium A.D., population densities had grown to the point where less favorable environmental settings were being used for habitation. Groups competed for the hunting grounds, seed and acorn gathering areas and other areas necessary to a hunting and gathering culture. Remains of these early peoples indicate that main villages, seldom more than

1,000 residents, were usually established along water courses and drainages. Remains of satellite villages have been found in areas used for procurement of food or other resources. By the late 1760s about 300,000 Native Americans lived in California (ABAG, 1991).

Historic Resources

Historic cultural resources are composed of structures and sites from the Spanish, Mexican, and American periods of California's history. These may include missions, historic ranch lands, and structures and sites from the Gold Rush and the region's early industrial era (MTC, 1994).

The arrival of the Spanish and the development of the mission system in the latter half of the 18th century permanently disrupted the indigenous societies flourishing in the area. Native American settlements were abandoned and replaced with agricultural land, housing, and military support for the missions. The San Francisco Mission (Mission San Francisco de Asis or Mission Dolores) and the Presidio (Yerba Buena) were founded in 1776. Both the Mission Santa Clara and the Pueblo de San Jose de Gualupe were founded in 1777 in Santa Clara County.

After the Mexican revolt against Spain in 1822 California lands came under Mexican rule and large tracks of land, including the former missions, were granted to individual owners. It was during the Mexican era that most of the historic ranch lands and associated living quarters and operational structures originate.

Mexico ceded control of California to the United States at the end of the Mexican-American War (1846-1884), and the discovery of gold in the late 1840s brought thousands of prospectors and settlers into California. The Bay Area became the gateway to the gold of the Sierra Nevada, with rapid growth occurring in several of the region's fledgling cities, focusing in San Francisco as a shipping and financial center. Today the structures and sites from this Gold Rush period are often considered to be of historic significance.

An era of increased agricultural production followed the Gold Rush, with much of the region's inland valley natural grasslands plowed for wheat, orchard, and vegetable cultivation. Construction of levees in the Sacramento/San Joaquin delta reclaimed wetland areas for field crops and orchards, and lumbering, begun during the gold rush to supply mining operations, continued to supply a growing population. The completion of the intercontinental railroad in San Francisco in 1888 assured the Bay Area's continued prominence as an economic and population center for the West in general and for California.

In the early 1900s the Bay Area's economic base continued to grow and diversify, with a maritime industry developing around the Bay and manufacturing, trade, and the lumber industry aiding in the growth and development of the region. Urban areas continued to grow in accordance with transportation corridors. The rail lines of the early 1900s supported new development along their routes, with residential and commercial centers at their stops. The arrival of the automobile and roadway construction allowed population and economic centers to develop in more dispersed patterns throughout the region. Cultural resources from this manufacturing era include sites and structures associated with industrial development (i.e. railroad and maritime industries) and with prominent citizens of the time.

Recorded Regional Resources

The interpretations and designations of archaeological resources in the Bay Area are documented at the Northwest Information Center at Sonoma State University. This information reflects the presence of known archaeological sites; known geological, soil, biological, hydrological, and topographical features; and the experience of archaeologists familiar with the field occurrences of such resources in the Bay Area.

As shown in Table 2.10-1, approximately 6,996 pre-historic and historic cultural sites have been recorded in the Bay Area and are listed with the Historical Resources Information System. Currently, some 1,373 cultural resources are listed on the National Register of Historic Places, of which approximately 240 are designated California Historic Landmarks. The California Inventory of Historic Resources includes a total of about 820 historic buildings, sites, or objects and 2,340 archaeological sites. The greatest concentration of listed historic resources occurs in San Francisco, with 215 sites on the National Register. Alameda County has the second highest number of listed historic resources with 159. In addition to national and State historic preservation legislation, many Bay Area counties and communities have enacted local ordinances that recognize and preserve historic sites. San Francisco, Sonoma, Napa, and San Mateo counties all have county-wide historic preservation programs and at least 30 cities have their own historic preservation ordinances.¹

Locations of Sensitivity

Dense concentrations of the Native American archaeological sites occur along the historic margins of San Francisco and San Pablo Bays. In addition, archaeological sites have also been identified in the following environmental settings in all Bay Area counties:

- Near sources of water, such as vernal pools and springs;
- Along ridgetops and on midslope terraces; and
- At the base of hills and on alluvial flats.

Native American archaeological sites have also been identified in the inland valleys of all of Bay Area counties. Remains associated with a Native American archaeological site may include chert or obsidian flakes, projective points, mortars and pestles, and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials.

Dense concentrations of historic resources are often found in large urban areas and smaller cities that experienced growth and development during the historic period. Historic resources are also found in rural settings where homesteads, ranches, or farms were once present. Historic remains may include stone or adobe foundations or walls, structures and remains with square nails, and refuse deposits often in old wells and privies.

¹Including Alameda, Berkeley, Calistoga, Campbell, Dixon, Gilroy, Half Moon Bay, Healdsburg, Hillsborough, Larkspur, Livermore, Menlo Park, Mill Valley, Morgan Hill, Napa, Oakland, Palo Alto, Petaluma, Redwood City, San Anselmo, San Jose, San Mateo, Santa Clara, Santa Rosa, Sebastopol, Sonoma, South San Francisco, St. Helena, Sunnyvale, Vacaville, Vallejo, Yountville. Source: 1998 RTP EIR.

Table 2.10-1: Recorded Archaeological and Historical Sites in the Bay Area

Source of Record	County							
	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Sonoma
Recorded Prehistoric and Historic Sites ¹	678	770	656	929	127	374	815	2,226
Cultural Resources listed individually on the National Register of Historic Places and the California Register of Historic Places ^{2,3}	142 BSO 17 AS	36 BSO 170 AS	50 BSO 8 AS	79 BSO 14AS	206 BSO 9 AS	50 BSO 10 AS	142 BSO 43 AS	36 BSO 4 AS 72 BSO 285 AS
California Historic Landmarks ⁴	30 BSO 1 AS	14 BSO	14 BSO	17 BSO	48 BSO	34 BSO	43 BSO	14 BSO 27 BSO
Listings on the California Inventory of Historical Resources	221 BSO 344 AS	108 BSO 352 AS	30 BSO 413 AS	31 BSO 328 AS	141 BSO 26 AS	75 BSO 152 AS	149 BSO 61 AS	30 BSO 264 AS 33 BSO 400 AS
Bridges Listed on the Caltrans Local Bridge Survey ⁵	286	322	120	102	49	127	406	162 406

Abbreviations: BSO (Building, Site, or Object); AS (Archaeological Site).

¹Northwest Information Center, 2004.

²State Office of Historic Preservation, 2004.

³Not included here are a category of 3,142 resources that have been listed as contributors to an Archaeological or Historic District and another set of 806 resources that have been determined to be eligible for listing on the National Register or the California Register of Historic Places.

⁴State Office of Historic Preservation, 1996.

⁵Caltrans Local Bridge Survey, 1989.

Source: Northwest Information Center, Sonoma State University, 2004

REGULATORY SETTING

Several state laws, most notably Section 15064.5 (f) of CEQA and Section 5020-5029 and 21083.2 of the Public Resources Code, protect archaeological and historic resources. CEQA requires assessment of the impacts of development projects upon unique archaeological resources or Native American culturally significant sites. If the project is found to cause damage to the resource, reasonable efforts may be required to preserve the resources, or leave them in an undisturbed state, or undertake additional mitigation measures if avoidance is not possible.

To protect historic resources, the State has formed the State Historical Resources Committee that conducts the State Historic Resource Inventory and maintains the California Register of Historic Resources, which identifies historical landmarks and points of interest. The Committee also provides recommendations for the National Register of Historic Resources.

When prehistoric or historic sites are identified, detailed field-level evaluation is required to determine the significance of the contents of any remains. Archival research is needed in the case of identified but unprotected archaeological sites and buildings, sites, or objects to determine the role played by the location and the contents in relation to the local history of the area, or their associations with important persons and events of local importance. Numerous recorded prehistoric and historic sites in the San Francisco Bay Area have not yet received this level of detailed analysis. A detailed evaluation must be conducted before mitigation measures can be finalized for those resources that will be damaged by actual construction.

IMPACT ANALYSIS

SIGNIFICANCE CRITERIA

This EIR uses the following criteria to assess whether the proposed Transportation 2030 Plan will have a significant adverse effect on cultural resources in the Bay Area:

- **Criterion 1: *Substantially changes the significance of a historical resource.*** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects have the potential to cause a substantial adverse change in the significance of a historical resource, defined as physical demolition, destruction, relocation or alteration of the resource or its immediate surroundings such that the significance of an historic would be materially impaired (Guidelines § 15064.5).
- **Criterion 2: *Substantially changes the significance of an archaeological resource.*** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects have the potential to cause a substantial adverse change in the significance of a unique archaeological resource.
- **Criterion 3: *Destroys a unique paleontological resource.*** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects have the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

- **Criterion 4: *Disturbs human remains.*** Implementation of the proposed Transportation 2030 Plan would have a potentially significant impact if transportation projects within the Plan have the potential to disturb any human remains, including those interred outside of formal cemeteries.

Generally under CEQA, a resource is considered “historically significant” if it meets the requirement for listing on the California Register of Historical Resources, which involves the following:

Criteria for Evaluating the Significance of Historic Resources. An historical resource must be considered significant at the local, state, or national level under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2. It is associated with the lives of persons important to local, California, or national history;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (California Public Resources Code).

Finally, in addition to determining the significance and eligibility of any identified historical resource under CEQA and the California Register, historic properties must be evaluated under the criteria for the National Register of Historic Places should federal funding or permitting become involved in any undertaking subject to this document.

METHOD OF ANALYSIS

This methodology recognizes that important cultural resources may be encountered during ground-disturbing construction work on Transportation 2030 Plan projects that involve physical construction. As described in the land use impact analysis in Chapter 2.3, there are a total of 178 projects that involve physical construction. Any of these projects could contribute to disturbance or damage of cultural resources and, therefore, it would be speculative to attempt to further refine the list of projects that could impact cultural resources.

Projects associated with the operation and maintenance of the transportation system, such as signalization, equipment replacement, and pavement maintenance, would not directly affect cultural resources. Because this EIR is a program EIR, site-specific analysis of potential impacts on cultural resources is not appropriate. Since the specific locations of cultural resources are not mapped (and resources have yet to be identified), and since the extent of ground disturbance associated with various Transportation 2030 Plan projects is unknown at this time, it is not possible to assess the specific impacts on cultural resources based on the location of these projects. Accordingly, no project-specific reviews or field studies were undertaken for this program EIR. Instead, this analysis identifies the type and magnitude of impacts that may result from the proposed project as a whole.

Subsequent to this program EIR, CEQA mandates the review of all Transportation 2030 Plan projects for potential environmental impacts, and projects that involve ground-disturbing activities will generally require a records search and/or field review by qualified professionals to identify site-specific cultural resource impacts.

SUMMARY OF IMPACTS

While project-specific studies will be necessary to determine the actual potential for significant impacts on cultural resources resulting from the implementation of the transportation improvements in the Transportation 2030 Plan, some general impacts can be assumed based on the general type and location of the improvements.

Direct Impacts

Implementation of the transportation improvements in the proposed Transportation 2030 Plan could result in both short term and long term impacts on cultural resources due to disturbance of both known and unknown resources, artifacts, burial grounds, etc. during project construction. However, since most of the Bay Area has not been systematically surveyed for cultural resources, it is not possible to determine what the direct impacts would be in the specific project area.

Indirect/Cumulative Impacts

Implementation of the transportation improvements in the proposed Transportation 2030 Plan could result in indirect impacts on cultural resources by serving forecast urban development that could, when it occurs, have the potential to disturb, destroy, or significantly affect cultural resources.

IMPACTS AND MITIGATION

Impact

2.10-1 Individual transportation improvements in the proposed Transportation 2030 Plan that involve ground disturbing activities have the potential to disturb, destroy, or significantly affect cultural resources. (*Significant, mitigable*)

The construction of transportation improvements in the proposed Transportation 2030 Plan could result in impacts on cultural resources if construction activities include the disturbance of the existing terrain. Likewise, the establishment of staging areas, temporary roads, and any other temporary facilities necessary for construction activities also has the potential to impact these cultural resources.

Projects located in the vicinity of historic bayshore margins, existing or historic water courses, along ridgetops, at the base of hilltops, and on alluvial flats are most likely to encounter cultural resources. Projects involving improvements within existing urban areas, within existing transportation corridors, or to existing infrastructure or operations are less likely to impact cultural resources since these projects are located in already-disturbed areas that may have been

subject to previous cultural resource surveys. However, since most transportation corridors follow valleys and drainage areas, and since archaeological resources are scattered throughout the Bay Area, many of the construction-related projects in the proposed Transportation 2030 Plan have a potential for significant impacts.

Projects located in areas with known historical sites, or located in communities with established historic preservation programs, or involving activities that would disturb the existing terrain are likely to result in significant impacts on cultural resources. A higher incidence of impacts to historical sites is expected to occur in urban areas settled or developed more than 40 years ago. However, projects traversing rural lands could also have significant impacts on sites that are singular examples of an historical setting. Both urban and rural projects could impact archaeological and paleontological resources.

The degree and extent of impacts will depend upon project-specific analysis to determine whether the value—i.e., the eligibility for local, State, or national recognition—of any cultural resource identified within a proposed alignment or project area. However, given the magnitude and location of several transportation improvements in the proposed Transportation 2030 Plan, and given the number of projects involving construction activities, it is possible that significant impacts on cultural resources could occur.

Mitigation Measures

2.10(a) Project sponsors shall commit to mitigation measures at the time of certification of their project environmental document. These commitments obligate project sponsors to implement measures that would minimize or eliminate any significant impacts on cultural resources. Typical mitigation measures that can be considered by project sponsors include:

- Site evaluation to determine an area of potential effect, including activities related to construction and the extent of post-construction impacts, for any site that requires grading or subsurface disturbance.
- Review through the Northwest Information Center at Sonoma State University to determine the potential for, or existence of, cultural resources.
- Evaluation to determine the significance (as defined by CEQA and National Historic Preservation Act guidelines) of cultural resources identified within the area of potential effect.
- Assessment by a qualified professional of sites or corridors with no identified cultural resources, but a moderate to high potential for archaeological resources.
- Assessment by a qualified professional of structures greater than 40 years in age within the area of potential effect to determine their eligibility for recognition under State, federal, or local historic preservation criteria.
- For development adjacent to sites with an identified historic or archaeological resource, minimize degradation to the resource by studying the potential effects and implementing appropriate measures to protect the integrity of the resource or site.

- Project-specific environmental documents shall require that if evidence of a cultural resource is found during construction the following actions shall be implemented:
 - Cessation of construction activities.
 - Evaluation by a professional archaeologist or historian to evaluate the value of the resources found and to advise on a plan to preserve resources determined to be of significance.

With the implementation of the above measures and adherence to state and federal regulations that protect cultural resources, potentially significant impacts on cultural resources would be reduced to levels that are not significant.

Cumulative Impact

2.10-2 Forecast urban development that would be served by transportation improvements in the proposed Transportation 2030 Plan could have the potential to disturb, destroy, or significantly affect cultural resources. (*Significant, mitigable*)

To the extent that the transportation improvements in the proposed Transportation 2030 Plan, in aggregate, would serve new forecast urban development, it would add to cumulative regional impacts. In addition, other transportation improvements in the proposed Transportation 2030 Plan not identified as having a direct impact on cultural resources in the regional context may result in individually minor impacts locally. Collectively, these individually minor impacts on cultural resources may become significant over time.

Mitigation Measures

Implementation of Mitigation Measure 2.10(a) (see above) would reduce potential impacts to levels that are not significant.

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2.11 Growth-inducing Impacts

This section discusses the ways in which the proposed Transportation 2030 Plan could generate population and employment growth beyond levels currently anticipated in regional and local plans. It describes the projected population and employment growth for the Bay Area between now¹ and 2030 and the location of the projected growth within the region. It also discusses various population characteristics (e.g., age, ethnicity, and income), and identifies trends in the balance of jobs and housing throughout the region.

It should be noted that two data sets from ABAG *Projections 2003* are used in this section: *Projections 2003* Summary Tables (e.g., City, County, etc.), and MTC's *Superdistrict and County Summaries of ABAG's Projections 2003 2000-2030 Data Summary* (September 2003). The latter of these two data sets is used for the majority of the demographics analysis.

POPULATION AND EMPLOYMENT GROWTH TRENDS AND PROJECTIONS

As background for the growth-inducing analysis, past growth trends and future growth projections are presented in this section. The Bay Area's population increased by 90 percent from 1960 to 2000, while jobs increased by 200 percent. Looking ahead to the next 25 years, the Association of Bay Area Governments (ABAG) projects that the Bay Area's population will grow another 29 percent (nearly 2 million more residents) and employment will increase by another 39 percent (1.5 million additional jobs).

During the past 40 years, the locations of people and jobs have become much more dispersed as new urban centers have formed and cities have gained population on the edge of the region. Population growth in the Bay Area is illustrated in Table 2.11-1. Santa Clara County is now the most populous county in the Bay Area and is home to about 25 percent of the region's residents. The county's largest city, San Jose, is also the largest city in the Bay Area with a population of 895,000 or about 13 percent of the region's residents (ABAG, 2003). Currently, there are 12 cities in the Bay Area of more than 100,000 residents.

Table 2.11-2 shows that similar to the population trends, jobs are also redistributing between areas. Three counties, Santa Clara, Alameda, and San Francisco account for two thirds of all the Bay Area jobs. ABAG projects that Solano and Sonoma Counties will have the greatest rate of job growth in the coming 25 years, at 66 percent and 56 percent respectively (ABAG, 2003). The cities gaining the largest number of people and jobs over the next 25 years are shown in Tables 2.11-3 and 2.11-4.

¹ Where available, current data is used. However, most demographic data is limited to U.S. Census data (year 2000) or DOF data (year 2003).

Table 2.11-1: Population Growth in the Bay Area (1980-2030)

County	2003	1980	2000	2030	Growth: 1980-2000	Growth: 2000-2030	% of Total 2000	% of Total 2030
Alameda	1,495,400	1,105,400	1,443,700	1,888,300	338,400	444,500	21	22
Contra Costa	1,003,800	656,400	948,800	1,257,300	292,400	308,500	14	14
Marin	250,300	222,600	247,300	283,100	24,700	35,800	4	3
Napa	130,900	99,200	124,300	153,500	25,100	29,200	2	2
San Francisco	786,900	679,000	776,700	935,100	97,800	158,300	11	11
San Mateo	712,800	587,300	707,200	846,000	119,800	138,800	10	10
Santa Clara	1,723,900	1,295,100	1,682,600	2,274,200	387,500	591,600	25	26
Solano	416,500	235,200	394,500	577,300	159,300	182,700	6	7
Sonoma	473,300	299,700	458,600	565,700	158,900	107,100	7	6
Region	6,993,800	5,179,800	6,783,800	8,780,300	1,604,000	1,996,600	100	100

Source: Department of Finance (DOF), 2003b; U.S. Census, 1980; MTC Superdistrict and County Summaries of ABAG Projections 2003 2000-2030 Data Summary, 2003

Table 2.11-2: Job Growth in the Bay Area (1980-2030)

County	2003	1980	2000	2030	Growth: 1980-2000	Growth: 2000-2030	% of Total 2000	% of Total 2030
Alameda	698,900	513,800	751,700	1,087,400	237,900	335,700	20	21
Contra Costa	488,800	201,200	361,100	536,400	159,900	175,300	10	10
Marin	124,700	77,900	123,000	164,000	45,100	41,000	3	3
Napa	67,400	35,900	66,800	89,000	30,900	22,200	2	2
San Francisco	375,400	552,200	634,400	815,700	82,200	181,200	17	16
San Mateo	351,600	259,800	395,900	526,600	136,100	130,700	11	10
Santa Clara	821,100	702,900	1,092,300	1,481,700	389,400	389,300	29	28
Solano	199,800	90,800	123,200	204,700	32,400	81,500	3	4
Sonoma	244,800	103,400	205,200	321,000	101,800	115,800	5	6
Region	3,372,500	2,537,900	3,753,700	5,226,300	1,215,800	1,472,600	100	100

Source: California Employment Development Department, 2004; U.S. Census, 1980; MTC Superdistrict and County Summaries of ABAG Projections 2003 2000-2030 Data Summary, 2003

Table 2.11-3: Top Ten Bay Area Cities by Population Growth (2000-2030)

<i>City</i>	<i>2000</i>	<i>2000-2030 Change</i>
San Jose	895,000	385,000
San Francisco	777,000	158,000
Oakland	399,000	122,000
Fremont	203,000	54,000
San Ramon	45,000	46,000
Fairfield	96,000	46,000
Dublin	30,000	45,000
Santa Rosa	148,000	43,000
Pittsburg	57,000	42,000
Vacaville	89,000	42,000

Source: Association of Bay Area Governments, 2003

Table 2.11-4: Top Ten Bay Area Cities by Employment Growth (2000-2030)

<i>City</i>	<i>2000</i>	<i>2000-2030 Change</i>
San Jose	423,000	189,000
San Francisco	634,000	181,000
Oakland	194,000	70,000
Santa Rosa	100,000	55,000
Fremont	108,000	55,000
Livermore	40,000	45,000
Santa Clara	136,000	36,000
Sunnyvale	113,000	32,000
Concord	60,000	26,000
Hayward	87,000	25,000

Source: Association of Bay Area Governments, 2003

Age

The median age of the population rose from 33 to 36 over the past decade (Census, 1990 and ABAG, 2003). However, as illustrated in Table 2.11-5, which compares the 1990 age distribution to the 2000 age distribution estimates, the region has remained stable in the percentage of the population in the three age categories. In a majority of the region's counties, the percentage of the population over the age of 65 has increased slightly or remained the same. As the Baby Boomers age, the proportion of the population group over 65 is projected to increase 169 percent to 2,039,900 people (23 percent of the total population) by 2030. About 49 percent of the population over 65 will be over age 75, and much less likely to drive (ABAG, 2003). This aging trend is likely to pose a greater demand for specialized transportation services.

A corollary trend is the small increase in the percentage of population in the working age brackets—ages 20 to 64. As the baby boomers continue to age, this percentage will most likely decrease and it is unlikely that the next generation will replenish the workforce. Rather, the most likely source of workers to fill new jobs will come from other adjacent counties.

Table 2.11-5: Age Distribution in the Bay Area

Age Category	County (Percent in 1990/2000)									
	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano	Sonoma	Region
Under 19	26/27	28/29	21/22	26/27	18/16	24/25	27/27	32/31	27/27	26/26
Age 20-64	63/63	61/60	67/65	58/58	67/70	63/62	64/63	60/59	59/60	63/63
Over 65	11/10	11/11	12/14	17/15	15/14	12/12	9/10	8/9	13/13	11/11

Due to rounding not all columns may total 100 percent.

Source: U.S. Census, 1990; Association of Bay Area Governments, 2003

Ethnicity

Since 1990, the Bay Area has grown more diverse, notably through the increase in Asian and Hispanic residents. Census 2000 figures show that non-Hispanic whites have decreased to about 50 percent of the population in 2000. By 2030, non-Hispanic whites will constitute only 35 percent of the population. By 2030, Hispanics will constitute around 28 percent, Asians or Pacific Islanders around 29 percent, African Americans about 8 percent, and American Indians less than one percent of the population (DOF, 1998). Of these groups, the proportion of Asians or Pacific Islanders living in the Bay Area is much greater than the proportion of Asians or Pacific Islanders in California.

Income/Car Ownership

Mean household income is expected to increase by 28 percent (in 2000 constant dollars) between 2000 and 2030 (ABAG, 2003). Although increases in wealth are not likely to be evenly distributed among age groups and ethnic groups, rising income indicates a higher potential for car ownership. As a result, while approximately 10 percent of Bay Area households currently do not own a vehicle, this percentage is projected to decrease to 9.8 percent by 2020. The number of households without vehicles will climb, in absolute terms, from 247,200 to 311,400 – a 26 percent increase.

Jobs and Housing

Over the last ten years, the supply of affordable housing in the Bay Area has not kept pace with job growth. Thus, new workers filling jobs must either pay very high prices to own or rent housing near their places of employment or move further away from employment centers and face correspondingly longer commutes. The greatest projected need for additional housing according to ABAG is in Santa Clara and Alameda counties, where many of the jobs are found (ABAG, 2003).

Table 2.11-6 compares the number of employed residents with the number of jobs projected for each county and provides an indication of which counties are exporters of workers and which

counties import workers by virtue of having more jobs than employed residents. For the Bay Area as a whole, there will be more jobs in 2030 than employed residents, resulting in about 243,000 commuters coming from outside the Bay Area to fill jobs within the nine county region.

Table 2.11-6: Population and Employment by Bay Area County – Net Importers/Exporters of Workers (Year 2000 and 2030)

Year 2000				
County	Employed Residents	Jobs	Difference	Imports/Exports workers
Alameda	697,900	751,700	53,800	IMPORTS
Contra Costa	483,900	361,100	-122,800	EXPORTS
Marin	141,000	123,000	-18,000	EXPORTS
Napa	67,100	66,800	-300	EQUAL ¹
San Francisco	444,900	634,400	189,600	IMPORTS
San Mateo	403,100	395,900	-7,200	EQUAL ¹
Santa Clara	959,100	1,092,300	133,300	IMPORTS
Solano	179,500	123,200	-56,300	EXPORTS
Sonoma	229,300	205,200	-24,100	EXPORTS
Region	3,605,700	3,753,700	148,000	IMPORTS
Year 2030				
County	Employed Residents	Jobs	Difference	Imports/Exports Workers
Alameda	1,063,200	1,087,400	24,200	IMPORTS
Contra Costa	704,700	536,400	-168,300	EXPORTS
Marin	166,100	164,000	-2,100	EQUAL ¹
Napa	83,000	89,000	6,000	EQUAL ¹
San Francisco	547,500	815,700	268,200	IMPORTS
San Mateo	490,700	526,600	35,900	IMPORTS
Santa Clara	1,313,400	1,481,700	168,300	IMPORTS
Solano	305,500	204,700	-100,800	EXPORTS
Sonoma	309,100	321,000	11,900	EQUAL ¹
Region	4,983,200	5,226,300	243,100	IMPORTS

¹ Defined as difference of 15,000 or less.

Source: MTC Superdistrict and County Summaries of ABAG's Projections 2003 2000-2030 Data Summary, 2003

Growth-inducing potential can be affected at the local and corridor level by changes in the jobs/housing balance as local communities change General Plans and zoning and developers respond to perceived opportunities where there is an imbalance. Jobs/housing balance compares the available housing and available jobs within a community, a city or other geographically defined subregion. Jobs/housing balance is based on the premise that commuting, the overall number of vehicle trips, and the resultant vehicle miles traveled can be reduced when sufficient jobs are available locally to balance the employment demands of the community and when commercial services are convenient to residential areas.

Planning for a jobs/housing balance builds on and integrates analyses of employment potential (existing and projected), housing demand (by income level and housing type), new housing production, and the relationship between employment opportunities and housing availability. Improving the jobs/housing balance so that the number of jobs is approximately the same as the number of employed residents – a ratio of 1:1 – requires carefully planning for the location, intensity, and nature of jobs and housing in order to encourage a reduction in vehicle trips and miles traveled and a corresponding increase in the use of mass transit and alternative modes of transportation, such as carpools, bicycling, and walking.

Table 2.11-7 shows the current and projected jobs-housing balance by Bay Area County. The jobs/housing ratio can also be displayed in more detail by MTC superdistricts, as shown in Table 2.11-8. In theory, a 1:1 ratio would indicate balance and improved opportunities for reduced commuting distances when the types of jobs match the skills of the local residents (although commuting is not reduced where there are mismatches between jobs and worker skills and income and housing affordability). An imbalance, particularly where there are fewer jobs than employed residents and the ratio is less than 1.0, can result in growth inducement as local officials and developers take actions to add non-residential land uses and increase the job base. These actions, in turn, can create pressure for additional growth. Also, if there is an imbalance in jobs and housing within a particular city, other cities may seek to fill the gap, whether it be housing or jobs to meet market demand. This can result in pressure for creation of jobs or housing in distant communities, and create a demand for additional infrastructure and services growth.

Table 2.11-7: Current and Projected Jobs/Housing Balance by County

Superdistrict	2000			2030			Difference
	Employed Residents	Jobs	Jobs/ Employed Residents	Difference	Jobs	Jobs/ Employed Residents	
Alameda	697,900	751,700	1.08	1,063,200	1,087,400	1.02	-0.05
Contra Costa	483,900	361,100	0.75	704,700	536,400	0.76	+0.01
Marin	141,000	123,000	0.87	166,100	164,000	0.99	+0.11
Napa	67,100	66,800	1.00	83,000	89,000	1.07	+0.08
San Francisco	444,900	634,400	1.43	547,500	815,700	1.49	+0.06
San Mateo	403,100	395,900	0.98	490,700	526,600	1.07	+0.09
Santa Clara	959,100	1,092,300	1.14	1,313,400	1,481,700	1.13	-0.01
Solano	179,500	123,200	0.69	305,500	204,700	0.67	-0.02
Sonoma	229,300	205,200	0.89	309,100	321,000	1.04	+0.14
Bay Area	3,605,700	3,753,700	1.04	4,983,200	5,226,300	1.05	+0.01

Source: MTC Superdistrict and County Summaries of ABAG's Projections 2003 2000-2030 Data Summary, 2003

Table 2.11-8: Current and Projected Jobs/Housing Balance by MTC Superdistrict

Superdistrict	2000			2030			Difference
	Employed Residents	Jobs	Jobs/ Employed Residents	Employed Residents	Jobs	Jobs/ Employed Residents	
1 Downtown San Francisco	73,000	387,000	5.28	99,000	490,000	4.95	-0.33
2 Richmond District	134,000	82,000	0.61	150,000	103,000	0.69	0.08
3 Mission District	167,000	138,000	0.82	221,000	187,000	0.85	0.02
4 Sunset District	70,000	28,000	0.40	77,000	35,000	0.46	0.06
5 Daly City/San Bruno	161,000	163,000	1.02	192,000	227,000	1.18	0.17
6 San Mateo/Burlingame	122,000	112,000	0.92	146,000	145,000	0.99	0.07
7 Redwood City/Menlo Park	121,000	121,000	1.00	153,000	154,000	1.01	0.01
8 Palo Alto/Los Altos	102,000	179,000	1.76	126,000	203,000	1.61	-0.15
9 Sunnyvale/Mountain View	143,000	372,000	2.60	206,000	474,000	2.31	-0.29
10 Saratoga/Cupertino	188,000	146,000	0.78	218,000	184,000	0.84	0.07
11 Central San Jose	147,000	161,000	1.09	255,000	256,000	1.00	-0.09
12 Milpitas/East San Jose	196,000	120,000	0.61	272,000	172,000	0.63	0.02
13 South San Jose/Almaden	132,000	71,000	0.54	156,000	101,000	0.65	0.11
14 Gilroy/Morgan Hill	50,000	42,000	0.84	80,000	92,000	1.15	0.31
15 Livermore/Pleasanton	91,000	119,000	1.31	176,000	212,000	1.20	-0.10
16 Fremont/Union City	163,000	146,000	0.89	239,000	228,000	0.95	0.06
17 Hayward/San Leandro	168,000	164,000	0.97	230,000	217,000	0.94	-0.03
18 Oakland/Alameda	193,000	216,000	1.12	304,000	306,000	1.01	-0.11
19 Berkeley/Albany	82,000	107,000	1.30	114,000	124,000	1.09	-0.22
20 Richmond/El Cerrito	115,000	76,000	0.66	156,000	112,000	0.71	0.05
21 Concord/Martinez	123,000	105,000	0.85	172,000	147,000	0.85	0.00
22 Walnut Creek/Lamorinda	72,000	83,000	1.15	94,000	98,000	1.05	-0.10
23 Danville/San Ramon	64,000	54,000	0.83	104,000	81,000	0.78	-0.06
24 Antioch/Pittsburg	109,000	44,000	0.40	179,000	99,000	0.55	0.15
25 Vallejo/Benicia	68,000	44,000	0.65	103,000	71,000	0.69	0.04
26 Fairfield/Vacaville	112,000	79,000	0.71	202,000	133,000	0.66	-0.05
27 Napa	47,000	41,000	0.89	61,000	62,000	1.02	0.14
28 St. Helena/Calistoga	20,000	25,000	1.25	22,000	27,000	1.21	-0.04
29 Petaluma/Sonoma	83,000	61,000	0.73	108,000	103,000	0.95	0.22
30 Santa Rosa/Sebastopol	108,000	124,000	1.14	149,000	188,000	1.26	0.12
31 Healdsburg/Cloverdale	37,000	21,000	0.55	52,000	31,000	0.60	0.05
32 Novato	32,000	28,000	0.87	42,000	45,000	1.09	0.22
33 San Rafael	59,000	53,000	0.90	66,000	64,000	0.96	0.06
34 Mill Valley/Sausalito	50,000	42,000	0.84	58,000	55,000	0.94	0.11

Source: MTC Superdistrict and County Summaries of ABAG's Projections 2003 2000-2030 Data Summary, 2003

GROWTH-INDUCING EFFECTS OF PROPOSED TRANSPORTATION 2030 PLAN

Growth-inducement effects would be considered significant if implementation of the Transportation 2030 Plan:

- Stimulates substantial and unplanned population growth in the region;
- Encourages local governments to change land use plans in response to the improved infrastructure, or
- Requires the construction of new facilities that could cause significant environmental effects.

As indicated in Table 2.11-6, the population of the Bay Area and all nine Bay Area counties is projected to grow by an aggregate of almost 2 million people between 2000 and 2030. This population growth is expected to occur with or without transportation improvements, since the factors most affecting population growth are birth rates, immigration, job opportunities, housing availability, climate, etc. The quality of the regional transportation system serving an area has a very limited role on overall growth compared to these factors. The availability of developable land, and, increasingly, opportunities for redevelopment in existing urban areas, has a major influence on where growth can take place. Similarly, the increasing number of local growth management initiatives such as urban limit lines, urban reserve areas, community separators, rural land preservation programs, conservation easements, parks, greenbelts and open space acquisition, and agricultural land preservation trusts effectively define land areas where urban growth cannot occur.

All factors considered, it is unlikely that the transportation system expansion contemplated in the proposed Transportation 2030 Plan will be of sufficient magnitude compared to the in-place transportation system to stimulate new growth beyond the 29 percent increase in population and 39 percent increase in jobs that are currently projected. There are four reasons for this.

- Historically, transportation investment in general, and increased transportation capacity in particular, lag behind the growth that has already occurred in the Bay Area (for example, Route 4 in eastern Contra Costa County and US 101 in northern Marin and Sonoma counties). The situation is likely to continue with the limited fiscal resources for system capacity expansion.
- Due to the maturity of the existing transportation system and the mode choices already offered, incremental corridor improvements will play a minimal role in attracting or inducing new development to the region as a whole. The regional health of the economy, the skills of the labor force, the stature of the educational system, particularly the universities and their research programs, the strength of local, regional and international markets, and interregional transportation costs are all more important influences on interregional location decisions.

- Growth is already limited by the historic inability of the Bay Area to provide an adequate supply of housing and at an affordable cost, resulting in some 150,000 job holders in the Bay Area living outside the nine county region and commuting into the Bay Area for their jobs.
- Most of the local agencies in the Bay Area with land use jurisdiction over territory that lies along the urban/rural boundaries have adopted growth management plans, urban limit lines, urban reserve areas or community separators, performance standards for transportation systems and public facilities and services, and large lot rural and agricultural zoning, to manage urban sprawl, irrespective of the presence or absence of inter-regional transportation facilities that connect urban centers. Many jurisdictions also have adopted incentive programs for infill development, particularly in transit corridors and around rail transit stations, some of which are supported by MTC's Transportation for Livable Communities (TLC) and Housing Incentive (HIP) programs. As a consequence, the indirect or cumulative effects of the proposed Transportation 2030 Plan on long-term growth are expected to be minimal.

As indicated in Chapters 2.1 of this EIR, overall mobility in the region will be more constrained in 2030 than it was in 2000, even with implementation of the Transportation 2030 Plan. There will be more peak period congestion, more total vehicle hours of delay and more lane miles of roads with poor or very poor levels of service. As a result, the increasing congestion could actually discourage new firms from locating in the Bay Area or cause some existing firms to consider relocating away from the region. Consequently, to the extent that the transportation network has any effect on regional growth, the most likely effect is that the Bay Area's inability to construct a transportation infrastructure sufficient to meet travel demand may dampen the projected rate of population and employment growth.

While the Transportation 2030 Plan would not be expected to affect overall regional population and employment growth, the priority setting processes and the availability of funding to pay for planned projects could affect the way the Plan is implemented. These decisions, in turn, could potentially have consequences for local growth and land development in some parts of the region over the coming twenty-five years, but these effects would be consistent with *Projections 2003*. In developing *Projections 2003*, ABAG introduced Smart Growth assumptions into the regional population forecasts, and Smart Growth objectives are one of the performance criteria used by MTC in evaluating projects to be included in the Transportation 2030 Plan pursuant to MTC's Resolution 3564. Under *Projections 2003*, in the next 25 years, population growth rates would increase in the most urbanized counties and decrease in the least urbanized counties when compared with the prior "trends" projections, reflecting the idea of infill and greater densities within existing urban areas. Relative to *Projections 2002*, *Projections 2003* show a 9.1 population increase in San Francisco and a 5.4 percent increase in Santa Clara County with the new Smart Growth assumptions, while showing a 7.9 percent decrease in Napa County population growth and 5.5 percent decrease in Sonoma County.

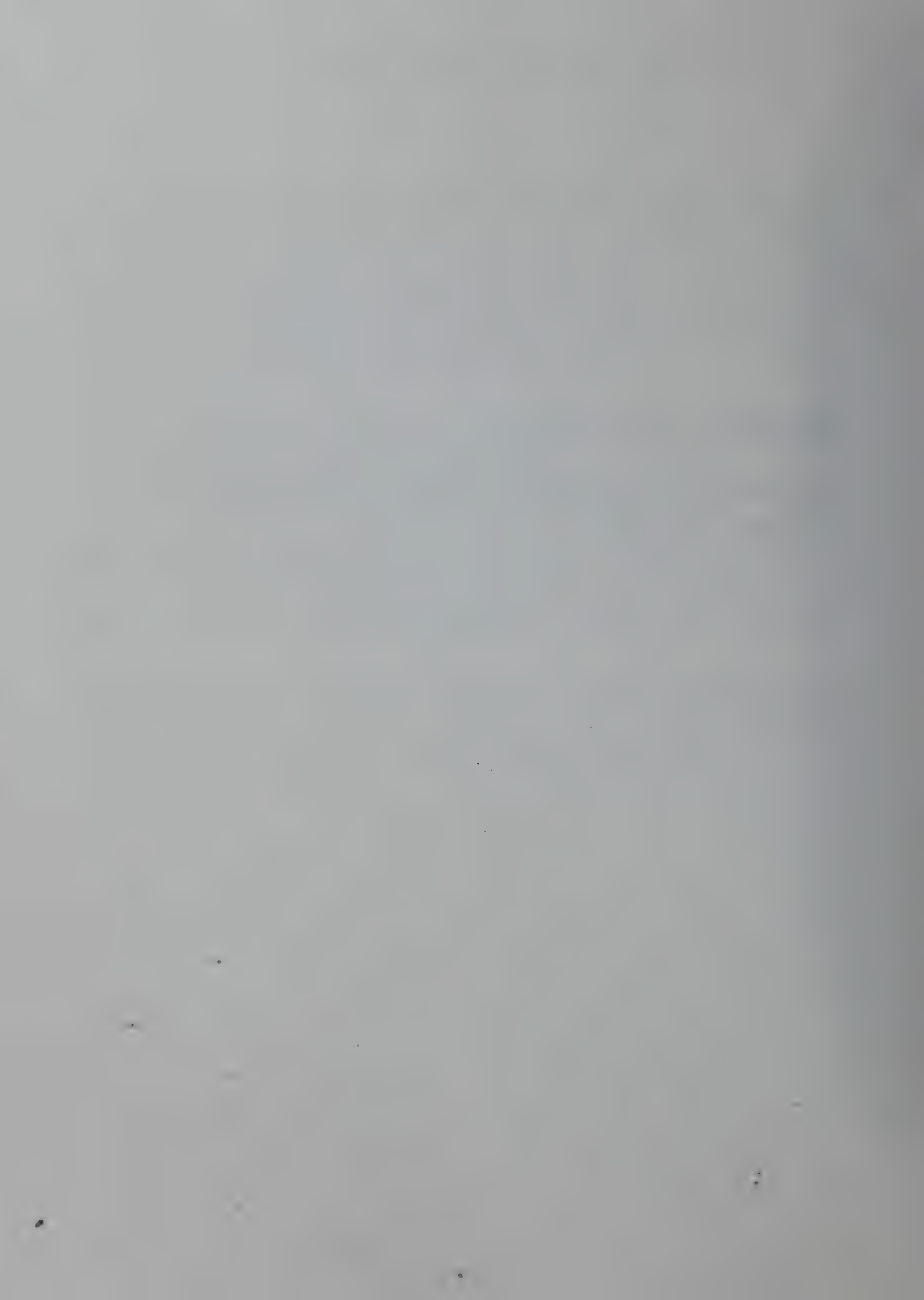
Some transportation improvements in the Transportation 2030 Plan could have localized effects on the timing and location of development, particularly infill development and urban redevelopment. The Plan calls for a substantially greater increase in transit supply (passenger seat miles per hour would increase by 34 percent) compared to highway capacity (a 7 percent increase in roadway lane miles). In this respect, the Transportation 2030 Plan has a city-centered focus (consistent with *Projections 2003*), and gives priority to transportation improvements that serve presently urbanized locations. This focus is supported by MTC's 5-point transportation and land use platform adopted as part of the Transportation 2030 Plan and by a criterion in MTC's Resolution 3434 that call for transit-supportive land use around transit stations and in transit corridors.

Through the Plan's funding of transit projects, it would be expected that densities would increase and/or infill development would occur sooner in some jurisdictions. In some areas, improved transit might be one factor facilitating urban infill development and improving jobs/housing balance, and to the extent that occurs, the Transportation 2030 Plan could support infill development or urban redevelopment. Improving the jobs/housing balance in turn acts as a deterrent to urban sprawl and regional growth inducement outside of urban areas. While any decision to amend local General Plans for higher density or a better jobs/housing balance would remain a local decision, the Transportation 2030 Plan may have the effect of encouraging more growth, in some locally concentrated areas with good transit access, than is currently anticipated in local General Plans. However, this type of localized growth is consistent with ABAG *Projections 2003*.

In conclusion, the Transportation 2030 Plan would not have a regional growth inducing effect. Rather, the regional deficiency in transportation infrastructure is expected to increase during the term of the Plan, and this could potentially dampen growth pressures. Localized densification effects, if any, would not represent growth beyond what is anticipated by *Projections 2003* for urban areas or for the overall region.

Part Three

Alternatives and CEQA-Required Conclusions



3.1 Alternatives to the Project

This chapter summarizes the various alternatives considered during preparation of the proposed Transportation 2030 Plan. Key features of each alternative are presented, and potential impacts are discussed and compared to the proposed Transportation 2030 Plan.

The CEQA Guidelines require EIRs to consider a reasonable range of alternatives to a proposed project or program. The range of alternatives shall include those that “would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project” (CEQA Guidelines, Section 15126.6(a)). “Feasible” means that the alternatives “are capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors” (CEQA Guidelines, Section 15364). The alternatives may result in new impacts that do not result from the Proposed Project. The EIR need not analyze these alternatives at the same level of detail that it analyzes the project itself. The CEQA Guidelines require only that the EIR analyze the comparative merits of the alternatives. Also, the Guidelines permit analysis of alternatives at a less detailed level for program EIRs, compared to project EIRs. Quantified information on the alternatives is presented where available; however, in some cases only partial quantification can be provided because of data or analytical limitations.

Finally, the CEQA Guidelines require each EIR to identify the environmentally superior alternative among the alternatives analyzed. If the No Project alternative is the environmentally superior alternative, the EIR must select another from among the alternatives analyzed.

ALTERNATIVES SCREENING

Section 15126.6 of the CEQA Guidelines outlines the range of alternatives that the EIR should analyze. All EIRs must assess the “No Project” alternative. This alternative represents the scenario of not adopting the Transportation 2030 Plan and continuing with the current plan through the year 2030. The other alternatives depend on the type and setting of the project. The range of alternatives is determined by the “rule of reason.” That is, the EIR needs to analyze only those alternatives that will help decision-makers make reasoned choices. The EIR should also focus on alternatives that reduce or eliminate the identified impacts of the proposed project, even if those alternatives would impede to some degree the attainment of the project objectives or would be more costly. If the alternatives themselves would have significant environmental impacts, the EIR must identify them.

MTC generated a preliminary range of project alternatives for consideration in the EIR, and included them in the Notice of Preparation (NOP) for public comments (see Appendix A). These preliminary alternatives—the No Project, Financially Constrained A, Financially Constrained B, and New Concepts—were derived to attain most of the Transportation 2030 Plan goals and potentially lessen the environment effects in comparison to the Transportation 2030 Plan (Proposed Project). MTC discussed these preliminary alternatives with the Bay Area Partnership

and its Technical Advisory Committee as well as MTC's advisory committees as part of the EIR scoping process.

MTC evaluated the comments about the alternatives offered in letters in response to the NOP. The commenters suggested that MTC perform a system-wide analysis by aggregating individual projects in the I-880 corridor to evaluate impacts on neighboring cities; refer to lifeline access in the financially constrained alternatives; evaluate the effects of fully funding the transit capital replacement shortfall compared to a proposal to fund a lesser portion of the transit capital shortfall; produce a different mix of investments if MTC were to institute criteria based on transit ridership and density; and evaluate the environmental effects of not including the Bay Area Partnership's proposed principles for allocating federal discretionary funds over the next few years in light of the state financial crisis. MTC deemed the suggestion to develop an investment plan based on transit ridership and density criteria to be infeasible because such a plan would only minimally address all the objectives that the Transportation 2030 Plan (the Proposed Project) has laid out and seeks to achieve. In addition, MTC also considered the suggestion to evaluate an alternative based on short-term funding allocation principles to be infeasible because it would fail to address already identified long term transportation needs in the Bay Area and some short term funding issues can be addressed with new revenues contained in the Proposed Project. However, MTC agreed with comments pertaining to the system-wide analysis, lifeline access, and differential in funding for the transit capital replacement shortfall, and the alternatives selected for this EIR analysis reflect these suggestions.

ALTERNATIVES ANALYZED IN THIS EIR

In addition to the Proposed Project, this EIR analyzes five alternatives: No Project, Financially Constrained Transportation 2030 Plan, Financially Constrained Transportation 2030 Plan Plus Sales Tax, Financially Constrained Transportation 2030 Plan Plus High-Occupancy/Toll (HOT) Network, and TRANSDEF Smart Growth alternative. These alternatives were selected to provide MTC decision makers with a reasonable range of choices and guidance about the future transportation system of the Bay Area. These alternatives are also intended to reflect distinct differences with respect to investment, mobility, and environmental effects.

The Transportation 2030 Plan (Proposed Project) and the alternatives evaluated in this EIR share some common features, including local streets and roads maintenance, transit operating and capital replacement maintenance, regional operation programs such as Freeway Service Patrol (FSP), call boxes, TransLink®, and 511, and incentive programs such as Transportation for Livable Communities (TLC) and Housing Incentive Program (HIP). By varying the overall composition of the highway, roadway, transit, and other projects evaluated, the Proposed Project and each alternative offer a different approach to carrying out the goals of the Transportation 2030 Plan. The TRANSDEF Smart Growth alternative goes further by making its own assumptions about future land use patterns (different from ABAG's adopted *Projections 2003*) and implementing other pricing strategies for the region. The descriptions of the alternatives are provided below. A complete listing of projects by alternative is provided in Appendix C. Table 3.1-1 shows the differences in the supply of transportation system capacity between alternatives.

NO PROJECT ALTERNATIVE (ALTERNATIVE 1)

The No Project alternative, required by CEQA, addresses the effects of not implementing the Transportation 2030 Plan. This alternative includes a set of highway, transit, local roadway, bicycle, and pedestrian projects that are in advanced planning stages and slated to go forward since they already have full funding commitments. These projects are: (1) included in the federally required Transportation Improvement Program (TIP), a three-year funding program of Bay Area project and programs, (2) not yet in the TIP but are fully funded county transportation sales projects authorized by voters in Alameda, Contra Costa, Santa Clara, San Mateo, and San Francisco counties, and (3) not yet in the TIP but fully funded through the Regional Measure 2 Toll Bridge Program that was approved by Bay Area voters in March 2003.

FINANCIALLY CONSTRAINED TRANSPORTATION 2030 PLAN ALTERNATIVE (ALTERNATIVE 2)

This Financially Constrained alternative consists of only the set of transportation projects and programs that would be funded through revenues projected to be reasonably available over the 25-year horizon of the Transportation 2030 Plan. It does not include projects identified in the vision element of the Transportation 2030 Plan (as previously described in Chapter 1.2). The key financial assumption governing the financially constrained element of the Plan is that existing sources of federal, state, or regional revenues are assumed to continue to 2030 with the exception of county transportation sales tax measures which, by law, must sunset. No new revenue sources that would require voter or legislative approval are assumed. This alternative is based on the Commission's regional priorities (i.e., addressing the maintenance and rehabilitation needs for local streets and roads and transit, continuing implementation of regional operations and customer service programs, funding clean air programs, and continuing the Transportation for Livable Communities (TLC) and Housing Incentive Program (HIP) programs, etc.). In addition, county level priorities developed by the individual county Congestion Management Agencies (CMAs) in consultation with their local agencies and transit operators are also included. The county priorities have been reviewed with the public and adopted by the CMAs' governing boards.

FINANCIALLY CONSTRAINED TRANSPORTATION 2030 PLAN PLUS SALES TAX ALTERNATIVE (ALTERNATIVE 3)

Five Bay Area counties—San Mateo, Contra Costa, Marin, Solano and Sonoma counties—will seek voter approval of new or reauthorized county transportation sales tax measures during the November 2004 elections. In this alternative, the Financially Constrained alternative will be expanded to include these potential sales-tax funded transportation projects and programs, which have been defined through the respective county planning and public involvement processes. Some common goals shared by the various county transportation sales tax plans are to keep the existing transportation system well-maintained; reduce and manage congestion on local roadways and highways; and support the use of transit, carpools, bicycling, and walking. Should these measures pass, the subset of transportation projects that become fully funded as a result of the new sales tax revenues will become part of the financially constrained element of the Transportation 2030 Plan when it is adopted in early 2005.

FINANCIALLY CONSTRAINED TRANSPORTATION 2030 PLAN PLUS HIGH-OCCUPANCY/TOLL (HOT) NETWORK ALTERNATIVE (ALTERNATIVE 4)

Building upon the investments considered in the Financially Constrained alternative, this alternative proposes to implement a toll pricing strategy to complete the regional HOV network and improve system efficiency. In this alternative, the Bay Area's existing High-Occupancy-Vehicle (HOV) lane system of 300 freeway lane miles, which saves time for vehicles with two or more occupants, would be converted to HOT lanes. Carpools, vanpools, and transit vehicles would continue to have free passage in the HOT lanes, but other motorists would pay a fee to use them. Vehicle occupancy rates for carpools/vanpools were increased to 3+ persons on all HOV lanes to create capacity for the new HOT lanes. The revenues generated by motorists who pay to use the lanes would be used to finance construction and operation of new HOV/HOT lanes where gaps exist in the HOV network, and to operate additional express bus and rideshare services for other corridor travelers. MTC would need federal and state legislative permission to implement the comprehensive HOT network envisioned in this alternative. The HOT network would consist of 800 miles of HOT lanes on Bay Area freeways, which is an additional 500 freeway lane miles over existing conditions (2000).

TRANSPORTATION SOLUTIONS DEFENSE AND EDUCATION FUND (TRANSDEF) SMART GROWTH ALTERNATIVE (ALTERNATIVE 5)

This alternative is supplied by TRANSDEF, a transportation advocacy organization, according to the Settlement Agreement and Release entered into by TRANSDEF, Citizens for Better Environment (CBE), Bay Area Air Quality Management District, and MTC in March 2004. This alternative includes a different set of land use assumptions for the region than in the other alternatives, by directing more future residential development in the Bay Area into transit supportive corridors, thus enhancing opportunities to use transit, bike and walk to various destinations. The alternative also includes new transportation pricing concepts affecting transit and road users, and aimed at encouraging travel on the region's bus and rail transit systems. The alternative minimizes expansion of the highway system while adding a broader network of Rapid Bus Transit (RBT) routes, expanding rail with equipment that uses conventional gauge rail tracks, and assuming implementation of a High Speed Rail network between Northern and Southern California via the Altamont Pass. Its purpose is to test the effectiveness of a planning strategy of accommodating regional growth by maximizing new residents' use of transportation modes other than single-occupant auto by limiting roadway capacity expansion and directing more potential growth into infill and transit-supportive areas in certain counties, avoiding greenfield development in other counties, and implementing pricing strategies to make driving more expensive and transit more attractive.

The underlying land use assumptions for the Proposed Project and all the financially constrained alternatives are ABAG's *Projections 2003*, which represent the outcome of the Bay Area region's recent regional smart growth planning project (called "Smart Growth Project"). These projections assume that the Bay Area will provide more housing opportunities near transit and also accommodate a larger share of future Bay Area workers within the nine Bay Area counties. In contrast, the TRANSDEF Smart Growth alternative uses its own set of land use assumptions patterned after the Network of Neighborhoods alternative, one of three conceptual land use patterns initially considered in the Smart Growth Project. This alternative has the same number

of residents and employees in the Bay Area as *Projections 2003*, but reduces the total residential land use uses in outlying rural and suburban areas while increasing residential construction in the urban core. In addition, TRANSDEF increases the net residential densities (i.e., number of households per residential acre) compared to *Projections 2003*. This type of development pattern would result in more conversion of existing low-intensity uses along arterial streets into mixed use commercial and housing as well as greater production of housing types such as apartments, condominiums and townhouses.

Whereas the other alternatives assume that existing transportation costs will remain the same, TRANSDEF proposes several pricing strategies to discourage travel in single occupant autos while increasing the attractiveness of using transit, biking, or walking: 1) a \$2.00/day parking charge at several high-demand BART stations, 2) a \$5.00/day parking charge at all employment sites (this charge is used as a surrogate for an employer provided parking-cash out program whereby employees would receive cash or free transit passes in an amount equivalent to what an employer would normally spend on employee parking), and 3) a 20 percent reduction in transit fares (this fare reduction is used as a surrogate for a residential Ecopass system for new residential developments whereby residents would pay for monthly transit passes through their rent or condominium fees). The alternative also would institute a regionwide free transfer policy for riders using multiple transit systems. In addition, widespread ramp metering is assumed in this alternative.

The TRANSDEF Smart Growth alternative also includes a markedly different set of transportation projects and programs than the other alternatives, and does not assume that fully funded projects will be implemented if they are not currently under contract. A total of 261 projects from the Financially Constrained Plus Sales Tax alternative were not included in this alternative, many of which are roadway projects. Roadway projects that were eliminated range from major interchange improvements such as the I-80/I-680/I-780 interchange improvements in Solano County; highway widenings such as Caldecott Tunnel fourth bore and Route 4 widening to 8 lanes with HOV lanes from Loveridge Road to Somersville Road in eastern Contra Costa County; and HOV projects such as the I-680 northbound HOV lane from Route 237 to Stoneridge Drive in Alameda County. In addition, BART extensions to Warm Springs and San Jose/Santa Clara were not included; and new transit services such as a TRANSDEF-defined regionwide Rapid Bus Transit (BRT) system, Diesel Multiple Unit (DMU) trains on conventional rail tracks, and upgraded Caltrain network (including electrification) were added. This alternative also assumes voter approval of a High Speed Rail system over the Altamont Pass serving San Francisco, Millbrae, Redwood City, Newark, Fremont, San Jose, Milpitas, and Livermore.

Overall, the TRANSDEF alternative would require a new approach to local land use planning absent regulatory power to require such changes at the local level. Several TRANSDEF pricing initiatives would require new authority. TRANSDEF believes MTC has authority to condition certain federal funds to local jurisdictions, although the amount of funds that would be conditioned are only a small fraction of the total transportation funding that is considered in the Transportation 2030 Plan. The ability to fund the operation and rehabilitation of the expanded transit network in this alternative has not been fully analyzed from a financial perspective. A number of transportation projects that were eliminated were approved by local voters, and would require counties to place new measures on a local ballot to shift funding over to new projects in

the TRANSDEF alternative. (See Appendix D for additional information on the TRANSDEF Smart Growth alternative).

COMPARATIVE IMPACT ANALYSIS

MTC may adopt any of the alternatives included in this EIR. The primary differences between the Proposed Project and the alternatives are the assumptions on future land use development and distribution, strategies affecting the price of using the Bay Area's transportation system, and assumptions concerning the amount of funding available for future transportation improvements. The Proposed Project and the three financially constrained alternatives are based on the land use projections adopted by ABAG (*Projections 2003*). The TRANSDEF Smart Growth alternative has its own set of land use assumptions patterned after the Network of Neighborhoods alternative from ABAG's Smart Growth Project. These land use assumptions are those of TRANSDEF and have not been reviewed with local governments or the public, other than through the Smart Growth process.

The Proposed Project and the financially constrained alternatives share the same pricing assumptions such as parking costs and transit fares. However, the TRANSDEF Smart Growth alternative proposes several new pricing policies, including free transfers between all major transit operators, a \$2.00/day parking fee at several high-demand BART stations, a 20 percent reduction in transit fares (as a surrogate for a mandatory residential transit eco-pass purchase program for occupants of new housing developments), and a \$5.00/day parking fee for commuters (as a surrogate for a regional employer parking cash out program).

The mix of roadway, highway, and transit investments assumed in the transportation network also varies amongst the Proposed Project and the alternatives depending on the financial assumptions. The Financially Constrained alternative assumes \$113 billion in revenues will be available over the next 25 years. In addition to the \$113 billion in revenues, the Financially Constrained Plus Sales Tax assumes an additional \$5.7 billion in new sales tax revenues, while the Financially Constrained Plus HOT assumes an additional \$3 billion of toll revenues. The TRANSDEF alternative includes revenues from new pricing strategies that TRANSDEF believes can be invoked through existing agency authority and powers, but which do not actually exist today. Because of the financial constraints, the transportation networks for these alternatives are far less extensive than the Proposed Project.

Unlike the alternatives, the Proposed Project is not financially constrained; it includes new revenue sources that MTC reasonably believes could be implemented through anticipated future voter or legislative action over the next 5 to 10 years. Although federal planning regulations require that MTC identify a set of projects that can be delivered based on reasonably available funding, these requirements do not preclude MTC from adopting a plan that includes additional projects that could be funded with new revenues. Because of its assumptions about the potential for new transportation funding, the Proposed Project has the most extensive transportation network, which includes both HOT lane projects and potential new county sales tax measure projects.

ANALYSIS OF THE TRANSDEF SMART GROWTH ALTERNATIVE ASSUMPTIONS

The TRANSDEF Smart Growth alternative has significantly different land use and pricing assumptions than the Proposed Project and the financially constrained alternatives. To provide additional information on the impact of these assumptions on certain transportation outcomes, MTC conducted an analysis to isolate the impacts of the TRANSDEF Smart Growth alternative's land use and pricing assumptions. Comparing land use assumptions (see Table 3.1-1), the TRANSDEF Smart Growth alternative results in 2,397,700 transit trips using TRANSDEF's land use assumptions, but drops to 2,148,000 transit trips using ABAG's *Projections 2003*¹. Thus, the difference of 249,000 transit trips is due to TRANSDEF's land use assumptions, which place more people in the urban core where the transit system is most extensive. To determine the effect of TRANSDEF's pricing strategies and proposed highway and transit projects on transit ridership, ABAG's land use assumptions were used for the TRANSDEF alternative, and then the TRANSDEF results were compared to the No Project alternative. This showed that, holding land use constant, TRANSDEF increased transit trips by 421,000 over the No Project alternative². Thus, MTC estimates that TRANSDEF's land use assumptions are responsible for about 37 percent of the transit ridership increase and the remaining 63 percent is due to pricing and transportation network changes.

In addition, MTC estimated the average trip costs for drive alone work trips and transit trips in the No Project alternative and TRANSDEF alternative (average trip costs represent the full set of out-of-pocket costs, including gasoline operating costs, non-gasoline operating costs, parking charges and transit fares). For drive alone work trips, MTC estimates the average trip cost to be \$1.30 per trip for the No Project alternative and \$1.50 per trip for the TRANSDEF Smart Growth alternative. Thus, the TRANSDEF alternative increases drive alone work trip costs by 15.4 percent. However, for transit trips (transit trips include both work and non work trip purposes), MTC estimates that the average transit trip cost is \$1.70 per trip for the No Project alternative and \$1.34 per trip for the TRANSDEF Smart Growth alternative. Thus, the TRANSDEF alternative lowers the average per trip cost for transit users by 21.2 percent. From these calculations, it appears that the benefits of the TRANSDEF land use and pricing assumptions are directed more heavily towards transit users, while drive alone auto users would experience higher travel costs.

It should also be noted that the demographic data assumptions in the TRANSDEF Smart Growth alternative produces different regional auto ownership rates compared to the Proposed Project and the other alternatives³. This difference is important because auto ownership rates affect trip generation rates and mode choice. Typically, lower auto ownership rates result in lower trip generation rates and higher use of non-auto modes. In addition, multi-vehicle households will likely make more vehicle trips but less transit trips than zero- and single-vehicle households who do not own a vehicle, compete for use of the household vehicle, or use transit (or other modes) because of the lack of access to a vehicle. For this EIR analysis, the regional auto ownership rates for the Proposed Project and Financially Constrained alternatives are the same. As shown in

¹ Numbers included in the narrative have been rounded.

² Numbers included in the narrative have been rounded.

³ Inputs into MTC's auto ownership model include density, income, household size, structure types, workers in households, and relative transit-to-highway accessibility. The regional values for income and household size are the same for the Proposed Project and TRANSDEF Smart Growth alternative.

Table 3.1-2, the TRANSDEF Smart Growth alternative, however, produces a higher number of zero-vehicle households (36.6 percent increase) but lower number of multi-vehicle households (9 percent decrease) compared to the Proposed Project. Overall, the TRANSDEF Smart Growth alternative produces a net decrease of 6.5 percent for the average number of vehicles per household compared to the Proposed Project. This would be expected because the TRANSDEF Smart Growth alternative increases densities and brings more households in San Francisco, resulting in higher predilection for lower vehicles per households. Therefore, the TRANSDEF Smart Growth alternative yields lower auto ownership rates, which in turn, yields lower trip generation rates and a different mode choice (i.e., lower vehicle trips) compared to the Proposed Project and the other alternatives.

Table 3.1-1: Bay Area Regional Trips by Trip Purpose and Travel Mode (2000 to 2030)

	2000	2030 Project	2030 No Project	2030 Financially Constrained	2030 Financially Constrained + HOT	2030 Financially Constrained + Sales Tax	2030 TRANSDF Smart Growth Alternative	2030 TRANSDEF Smart Growth Alternative (Projections 2003) ¹
Auto	17,597,300	23,583,600	23,719,700	23,705,600	23,687,000	23,707,500	22,615,000	23,172,300
Transit	1,175,600	1,869,700	1,727,000	1,745,500	1,755,000	1,742,600	2,397,300	2,148,400
Bicycle	310,600	403,100	405,200	403,800	407,400	404,300	433,000	417,500
Walk	1,950,400	2,636,400	2,640,900	2,640,000	2,643,500	2,639,400	2,829,200	2,754,600
Total	21,033,800	28,492,900	28,492,900	28,492,900	28,492,900	28,492,900	28,274,500	28,492,900
Truck Trips	3,404,400	4,654,500	4,654,500	4,654,500	4,654,500	4,647,800	4,647,800	4,647,800
Interregional Vehicle Trips ²	572,200	1,042,000	1,042,000	1,042,000	1,042,000	1,042,000	1,042,000	1,042,000
Intraregional Vehicle Trips ³	13,121,500	17,772,800	17,868,100	17,852,100	17,842,300	17,861,500	16,975,000	17,481,100
Total Vehicle Trips	17,098,100	23,469,400	23,564,600	23,548,700	23,538,800	23,551,400	22,664,900	23,170,900
Non-Work-Auto	13,153,400	17,382,100	17,433,900	17,425,500	17,419,300	17,424,000	16,707,700	17,019,800
Non-Work-Transit	603,400	864,300	810,800	819,100	819,400	820,900	1,273,900	1,103,900
Non-Work-Bicycle	250,300	301,000	301,500	300,600	303,300	300,900	307,500	311,900
Non-Work-Walk	1,778,400	2,389,900	2,392,100	2,392,100	2,395,200	2,391,500	2,522,200	2,501,600
Non-Work-Total	15,786,500	20,937,300	20,937,300	20,937,300	20,937,300	20,937,300	20,811,400	20,937,300

¹TRANSDEF Smart Growth alternative using ABAG's Projections 2003²Interregional trips mean vehicle trips that start within the region and end outside of the region, or vice-versa³Intraregional trips mean vehicle trips that start within the region and end within the region

Source: Metropolitan Transportation Commission, 2004

Table 3.1-2: Summary of Regional Household Auto Ownership & Workers in Household Forecasts (2000 to 2030)

	2000	2030 Project	2030 TRANSDEF Smart Growth	Numerical and % Difference of 2030 TRANSDEF Smart Growth from 2030 Project	
Non-Working Households	520,700	692,300	731,700	39,400	5.7%
Single-Worker Households	915,300	1,206,100	1,200,800	-5,400	-0.4%
Multi-Worker Households	1,030,000	1,288,100	1,254,200	-34,000	-2.6%
Total Households	2,466,000	3,186,600	3,186,600	0	0.0%
Zero-Vehicle Households	247,200	311,400	425,400	114,100	36.6%
Single-Vehicle Households	816,200	967,200	1,025,000	57,800	6.0%
Multi-Vehicle Households	1,402,500	1,908,000	1,736,200	-171,900	-9.0%
Total Household Vehicles	4,325,000	5,746,700	5,371,100	-375,600	-6.5%
Average Vehicles/Household	1.75	1.80	1.69	-0.12	-6.5%
Share, Zero-Vehicle Households	10.0%	9.8%	13.4%		
Share, Single-Vehicle Households	33.1%	30.4%	32.2%		
Share, Multi-Vehicle Households	56.9%	59.9%	54.5%		

Source: Metropolitan Transportation Commission, 2004

The following subsections describe and compare the issue area impacts of the various alternatives to the Proposed Project. The comparisons are summarized in Table 3.1-23 at the end of this chapter.

TRANSPORTATION

Proposed Transportation System Capacity Increases (Supply)

Table 3.1-3 presents the differences in the supply of the transportation system among the alternatives. The transit supply for the 2030 No Project alternative is based on 2004 transit service levels, which reflect recent cuts in service, and therefore is much lower in 2030 than in 2000 (about 650,000 transit passenger seat miles lower in 2030, or 33 percent less).

The Proposed Project transit supply is about 6.5 percent higher than existing conditions (2000). The Proposed Project includes new sales taxes in Alameda, Marin, Sonoma and Santa Clara counties, which provides funding to restore local bus transit service to 2000 levels for AC Transit, Golden Gate Transit, and VTA. These sales taxes, along with HOT lanes and new or reauthorized sales taxes in the other five Bay Area counties, sustain existing transit service levels and expand express bus services throughout the region. The Financially Constrained and Financially Constrained Plus HOT alternatives provide very similar transit supply levels to the No Project because no new service is being operated compared to 2004 levels. The Financially Constrained Plus Sales Tax alternative increases transit supply compared to the No Project by expanding some new rail and express bus services and restoring some local bus services.

In general, increased investment in local roadway, highway, and transit projects will result in more travel options, faster speeds, and shorter travel times. Because the Proposed Project includes the greatest amount of new transportation revenues, this alternative also produces the greatest expansion of the Bay Area's transportation network. In contrast, all the Financially Constrained alternatives, which assume only the set of reasonably available transportation funds over the next 25 years, have relatively lower levels of investments compared to the Proposed Project (up to 2 percent less in roadway supply and up to 34 percent less in transit supply). The TRANSDEF Smart Growth alternative provides for about 4.2 percent less roadway supply and about 22 percent less transit supply compared to the Proposed Project. Notably, the TRANSDEF Smart Growth alternative reduces freeway HOV lane miles by 50 percent compared to the Proposed Project.

Projected Changes in Transportation Mode and Vehicle Travel

Table 3.1-4 shows the differences in regional travel activity amongst the alternatives. A few key transportation mode and vehicle travel changes are worth highlighting. For example, compared to all the alternatives, the land use and pricing assumptions in the TRANSDEF Smart Growth result in the most significant changes in transportation mode share compared to the Proposed Project – a 4.1 percent reduction in auto use, 28.2 percent increase in transit use, and about 7 percent increase each in bicycling and walking. All the Financially Constrained alternatives result in a 6 to 7 percent decrease in transit use given that these alternatives have up to 34 percent less transit supply compared to the Proposed Project. In terms of transit use, the TRANSDEF Smart Growth

Table 3.1-3: Roadway Lane Miles and Transit Seat Miles (2000 to 2030)

	2030									
	2000	2030 Project	2030 No Project	Difference from Proposed Project	2030 Financially Constrained	Difference from Proposed Project	2030 Financially Constrained + HOT	Difference from Proposed Project	2030 Financially Constrained + Sales Tax	Difference from Proposed Project
Freeways	4,500	5,400	4,800	-11.1%	5,100	-5.6%	5,300	-1.9%	5,100	-5.6%
Mixed Flow	4,300	4,600	4,400	-4.3%	4,500	-2.2%	4,500	-2.2%	4,600	0.0%
HOV	300	800	400	-50.0%	600	-25.0%	800	0.0%	600	-25.0%
Expressways	1,000	1,100	1,000	-9.1%	1,100	0.0%	1,100	0.0%	1,100	0.0%
Mixed Flow	900	1,000	1,000	0.0%	1,000	0.0%	1,000	0.0%	1,000	0.0%
HOV	0	100	100	0.0%	0	-100.0%	100	0.0%	0	-100.0%
Arterial / Other	14,600	15,100	14,900	-1.3%	15,000	-0.7%	15,000	-0.7%	15,000	-0.7%
Roadway Lane Miles Total	20,100	21,600	20,700	-4.2%	21,100	-2.3%	21,400	-0.9%	21,200	-1.9%
High-Occupancy/Toll (HOT)	0	800	0	-100.0%	0	-100.0%	800	0.0%	0	-100.0%
Bus Transit	1,912,700	2,037,400	1,262,700	-38.0%	1,256,600	-38.3%	1,256,600	-38.3%	1,477,370	-27.5%
Light Rail Transit	179,600	280,500	206,500	-26.4%	257,100	-8.3%	257,100	-8.3%	252,200	-10.1%
Rail Rapid Transit	1,059,600	1,918,800	1,087,700	-43.3%	1,125,400	-41.3%	1,125,400	-41.3%	1,187,200	-38.1%
Commuter Rail Transit	678,700	828,000	762,800	-7.9%	756,100	-8.7%	756,100	-8.7%	756,100	-8.7%
Ferry Transit	110,900	227,100	126,800	-44.2%	126,800	-44.2%	126,800	-44.2%	169,400	-25.4%
Transit Seat Miles Total	3,941,300	5,291,800	3,446,600	-34.9%	3,521,900	-33.4%	3,521,900	-33.4%	3,842,270	-27.4%

Source: Metropolitan Transportation Commission, 2004

alternative has a 28.2 percent increase in daily transit boardings compared to the Proposed Project, but due to the constrained road investment, produces a 24.3 increase in daily vehicle hours of delay and a 28.7 percent increase in average delay per vehicle compared to the Proposed Project. While transit use does increase under the TRANSDEF Smart Growth alternative to a total of 2.4 million daily transit trips, the resulting adverse impact on vehicle hours of delay and average delay per vehicle would be significant for the 22.6 million daily vehicle trips forecasted for 2030 under this alternative. The vehicle delay impact is most significant for Marin County (98.1 percent increase in vehicle hours of delay), Napa County (54.8 percent increase in vehicle hours of delay), and Contra Costa County (44.2 percent increase in vehicle hours of delay) as shown in Table 3.1-5. In addition, relative to the other alternatives, the Financially Constrained Plus HOT alternative results in the least increase in daily vehicle hours of delay (8 percent increase), followed by the TRANSDEF Smart Growth (24.3 percent), Financially Constrained (26.6 percent), and then the Financially Constrained Plus Sales Tax (34.1 percent).

Average Travel Time Per Trip

As shown in Table 3.1-6, compared to the Proposed Project, all the alternatives would result in relatively longer average travel times per trip for all trips except for non-work trips under the Financially Constrained Plus Sales Tax alternative (0.2 percent decrease in average travel time per trip) and truck trips under the TRANSDEF Smart Growth alternative (0.9 percent decrease in average travel time per trip). Since the Proposed Project provides for the most extensive level of transportation system expansion (supply), the average travel time per trip is lower compared to all the alternatives.

Accessibility to Jobs

The Proposed Project generally increases accessibility to jobs by auto and transit due to the extensive level of transportation improvements provided as well as the transit-oriented land use pattern assumed in ABAG's *Projections 2003* as shown in Table 3.1-7. Amongst the alternatives, the TRANSDEF Smart Growth alternative results in the greatest improvement in job access by autos and transit (e.g., for jobs within 45 minutes, a 13.9 percent increase by transit and 5.1 percent increase by auto) compared to the Proposed Project. This improvement in accessibility to jobs is due to the approach taken by TRANSDEF to redistribute regional growth and further intensify new development densities beyond ABAG's *Projections 2003*. All the Financially Constrained alternatives perform less well under this measure when compared to the Proposed Project due to less robust levels of transportation investment.

Table 3.1-4: Projected Changes in Travel Behavior (2000 to 2030)

	2000	2030 Project	2030 No Project	Difference from Proposed Project	2030 Financially Constrained	Difference from Proposed Project	2030 Financially Constrained + HOT	Difference from Proposed Project	2030 Financially Constrained + Sales Tax	Difference from Proposed Project	2030 TRANSEDEF Smart Growth	Difference from Proposed Project
Trips by Means of Transportation												
Auto	17,597,300	23,583,600	23,719,700	0.6%	23,704,600	0.5%	23,687,000	0.4%	23,706,500	0.5%	22,615,000	-4.1%
Transit	1,175,600	1,869,700	1,727,000	-7.6%	1,744,500	-6.7%	1,755,000	-6.1%	1,742,600	-6.8%	2,397,300	28.2%
Bicycle	310,600	403,100	405,200	0.5%	403,800	0.2%	407,400	1.1%	404,300	0.3%	433,000	7.4%
Walk	1,950,400	2,636,400	2,640,900	0.2%	2,640,000	0.1%	2,643,500	0.3%	2,639,400	0.1%	2,829,200	7.3%
Total	21,033,800	28,492,900	28,492,900	0.0%	28,492,900	0.0%	28,492,900	0.0%	28,492,900	0.0%	28,274,500	-0.8%
Share of Trips by Means of Transportation												
Auto	83.7%	82.8%	83.2%		83.2%		83.1%		83.2%		80.0%	
Transit	5.6%	6.6%	6.1%		6.1%		6.2%		6.1%		8.5%	
Bicycle	1.5%	1.4%	1.4%		1.4%		1.4%		1.4%		1.5%	
Walk	9.3%	9.3%	9.3%		9.3%		9.3%		9.3%		10.0%	
Total	100.0%	100.0%	100.0%		100.0%		100.0%		100.0%		100.0%	
Daily Transit Boardings	1,714,300	2,815,500	2,504,400	-11.0%	2,538,800	-9.8%	2,559,000	-9.1%	2,543,100	-9.7%	3,610,100	28.2%
Daily Vehicle Trips	17,098,100	23,469,400	23,564,600	0.4%	23,548,700	0.3%	23,538,800	0.3%	23,551,400	0.3%	22,664,900	-3.4%
Daily Vehicle Miles of Travel (VMT)	143,495,300	200,878,200	203,072,600	1.1%	202,823,500	1.0%	202,480,900	0.8%	203,063,100	1.1%	196,465,700	-2.2%
Daily Vehicle Hours of Delay (VHD)	355,600	721,300	1,073,900	48.9%	913,000	26.6%	779,100	8.0%	967,000	34.1%	896,400	24.3%
Average Delay per Vehicle (Minutes)	1.2	1.8	2.7	48.3%	2.3	26.2%	2.0	7.7%	2.5	33.6%	2.4	28.7%

Source: Metropolitan Transportation Commission, 2004

Table 3.1-5: Average Weekday Daily Vehicle Hours of Delay (VHD) by County of Occurrence (2000 to 2030)

	2000	2030 Project	2030 No Project	Difference from Proposed Project	2030 Financially Constrained	Difference from Proposed Project	2030 Financially Constrained + HOT	Difference from Proposed Project	2030 Financially Constrained + Sales Tax	Difference from Proposed Project	2030 TRANSEDEF Smart Growth	Difference from Proposed Project
Alameda	77,300	190,500	317,500	66.7%	249,000	30.7%	209,900	10.2%	283,800	49.0%	262,700	37.9%
Contra Costa	49,300	78,100	117,100	49.9%	98,800	26.5%	89,500	14.6%	110,900	42.0%	112,600	44.2%
Marin	26,300	21,500	47,300	120.0%	42,700	98.6%	25,400	18.1%	40,900	90.2%	42,600	98.1%
Napa	3,200	6,200	11,800	90.3%	9,500	53.2%	6,200	0.0%	10,200	64.5%	9,600	54.8%
San Francisco	18,200	35,600	55,900	57.0%	47,200	32.6%	45,700	28.4%	52,600	47.8%	38,000	6.7%
San Mateo	35,900	64,000	84,200	31.6%	79,000	23.4%	70,300	9.8%	78,500	22.7%	83,000	29.7%
Santa Clara	100,200	203,800	256,400	25.8%	225,700	10.7%	205,500	0.8%	233,600	14.6%	211,000	3.5%
Solano	19,000	87,800	131,200	49.4%	111,300	26.8%	89,000	1.4%	113,300	29.0%	92,700	5.6%
Sonoma	26,300	33,900	52,700	55.5%	49,900	47.2%	37,600	10.9%	43,200	27.4%	44,200	30.4%
Bay Area	355,600	721,300	1,073,900	48.9%	913,000	26.6%	779,100	8.0%	967,000	34.1%	896,400	24.3%

Source: Metropolitan Transportation Commission, 2004

Table 3.1-6: Average Travel Time per Trip (2000 to 2030)

	2000	2030		Difference from Proposed Project		2030 Financially Constrained + HOT Lanes		Difference from Proposed Project		2030 Financially Constrained + Sales Tax		Difference from Proposed Project		2030 TRANSDEF Smart Growth		Difference from Proposed Project	
		2030 Project	No Project	Difference from Proposed Project	2030 Financially Constrained	Difference from Proposed Project	2030 Financially Constrained + HOT Lanes	Difference from Proposed Project	2030 Financially Constrained + Sales Tax	Difference from Proposed Project	2030 TRANSDEF Smart Growth	Difference from Proposed Project					
Work Trips, Total	28.4	31.1	31.8	2.3%	31.1	0.0%	31.6	1.6%	31.3	0.7%	31.8	2.1%					
Non-Work Trips, Total	15.8	16.0	16.1	0.6%	16.0	0.0%	16.1	0.6%	16.0	-0.2%	16.2	1.2%					
Personal Trips, Total	18.9	20.0	20.2	1.0%	20.0	0.0%	20.2	1.0%	20.0	0.2%	20.3	1.5%					
Truck Trips, Total	11.4	11.4	11.5	0.9%	11.4	0.0%	11.5	0.9%	11.4	0.0%	11.3	-0.9%					

Source: Metropolitan Transportation Commission, 2004

Table 3.1-7: Accessibility to Jobs (2000 to 2030)

		2000		2030		Difference from Proposed Project		2030 Financially Constrained		Difference from Proposed Project		2030 Financially Constrained + HOT		Difference from Proposed Project		2030 Financially Constrained + Sales Tax		Difference from Proposed Project		2030 TRANSDEF Smart Growth		Difference from Proposed Project	
		2030 Project		No Project																			
Number of Total Jobs Accessible by Auto																							
Within 15 minutes	109,200	133,300	131,400	-1.4%	133,700	0.3%	122,800	-7.9%	133,400	0.1%	149,600	12.2%											
Within 30 minutes	476,800	569,800	553,500	-2.9%	567,300	-0.4%	553,100	-2.9%	570,800	0.2%	609,000	6.9%											
Within 45 minutes	960,300	1,114,300	1,076,000	-3.4%	1,104,400	-0.9%	1,081,300	-3.0%	1,110,200	-0.4%	1,171,400	5.1%											
Number of Total Jobs Accessible by Transit																							
Within 15 minutes	5,100	7,900	7,000	-11.4%	7,200	-8.9%	6,900	-12.7%	7,200	-8.9%	11,100	40.5%											
Within 30 minutes	41,200	66,800	57,700	-13.6%	58,400	-12.6%	57,400	-14.1%	58,400	-12.6%	83,400	24.9%											
Within 45 minutes	136,000	211,400	176,300	-16.6%	179,400	-15.1%	177,200	-16.2%	177,900	-15.9%	240,800	13.9%											

Source: Metropolitan Transportation Commission, 2004

Daily Vehicle Trips

As shown in Table 3.1-8, all the Financially Constrained alternatives produce a slight increase in daily vehicle trips in the region over the Proposed Project (up to 0.5 percent increase), largely because of their more limited investment in transit. Conversely, compared to the Proposed Project, the TRANSDEF Smart Growth alternative, with its redistribution of regional growth and focus on transit expansion projects, reduces regional daily vehicle trips, particularly in Solano County (9.8 percent reduction in daily vehicle trips) and Alameda County (8.8 percent reduction in vehicle trips). However, as discussed previously, compared to the Proposed Project, the TRANSDEF Smart Growth alternative also results in a 24.3 percent increase in daily vehicle hours of delay due to its deletion of many planned projects to expand roadway capacity (although this is comparatively less than the daily vehicle hours of delay of the Financially Constrained (26.2 percent) and Financially Constrained Plus Sales Tax (34.1 percent) alternatives).

Vehicle Miles Traveled (VMT) by Facility Type and Volume to Capacity Ratio (V/C)

As shown in Table 3.1-9, the amount of vehicle miles traveled at LOS F in the Proposed Project would increase by about 92 percent on all facilities types over existing conditions (2000). Comparing between alternatives, all the alternatives result in higher vehicle miles traveled at LOS F for all facility types compared to the Proposed Project. One exception is that the Financially Constrained Plus HOT alternative, which reduces vehicle miles traveled at LOS F on expressways and arterials by 9.5 percent compared to the Proposed Project; this is likely because more auto users are taking advantage of the freeway HOT lanes.

AIR QUALITY

Table 3.1-10 shows the travel data used in the air quality analysis, and Table 3.1-11 presents the emissions estimates for the Proposed Project and each alternative. The Proposed Project and all the alternatives result in considerably lower vehicle emissions for ROG, NO_x, and CO than existing conditions (2000) due to the retirement of older, more polluting automobiles and their replacement with vehicles that have substantially lower emissions and through implementation of other mobile source control measures (such as the Bay Area's Enhanced Smog Check program). Emissions for PM₁₀ and PM_{2.5} will increase because of increased travel on Bay Area roads, which disturbs dust on local roads and freeways and produces more road dust in the air (entrained dust). Compared to the Proposed Project, all the alternatives produce slightly higher emissions for all the criteria pollutants (generally less than a two percent change), except for the TRANSDEF Smart Growth alternative, which results in slightly lower emissions (less than two percent change) due to reduced auto trips. However, given regional progress in lowering ozone and carbon monoxide levels, differences in alternatives in 2030 are not significant. Regarding particulate matter, the major increases are due to growth in regional travel between now and 2030, and differences between alternatives and the Proposed Project are small (less than 2 percent in emissions).

Table 3.1-8: Average Weekday Daily Vehicle Trips by County-of-Origin¹

County-of-Origin	2000	2030		Difference from Proposed Project		2030 Financially Constrained		Difference from Proposed Project		2030 Financially Constrained + HOT		Difference from Proposed Project		2030 Financially Constrained + Sales Tax		Difference from Proposed Project		2030 TRANSEDEF Smart Growth		Difference from Proposed Project	
		Project	No Project	2030 Project	Difference from Proposed Project	2030 Financially Constrained	Difference from Proposed Project	2030 Financially Constrained + HOT	Difference from Proposed Project	2030 Financially Constrained + Sales Tax	Difference from Proposed Project	2030 TRANSEDEF Smart Growth	Difference from Proposed Project								
San Francisco	1,087,700	1,289,600	1,304,000	1.1%	1,302,900	1.0%	1,299,300	0.8%	1,302,300	1.0%	1,259,200	-2.4%									
San Mateo	1,624,800	2,077,800	2,090,500	0.6%	2,087,700	0.5%	2,084,400	0.3%	2,088,100	0.5%	2,097,800	1.0%									
Santa Clara	3,921,300	5,364,300	5,380,800	0.3%	5,379,200	0.3%	5,380,200	0.3%	5,384,100	0.4%	5,175,600	-3.5%									
Alameda	2,555,400	3,489,400	3,521,900	0.9%	3,515,600	0.8%	3,512,700	0.7%	3,517,500	0.8%	3,181,600	-8.8%									
Contra Costa	1,714,900	2,441,200	2,448,900	0.3%	2,447,900	0.3%	2,446,600	0.2%	2,449,900	0.4%	2,302,000	-5.7%									
Solano	620,600	978,100	982,000	0.4%	980,800	0.3%	980,100	0.2%	981,600	0.4%	881,900	-9.8%									
Napa	238,500	309,000	309,300	0.1%	309,200	0.1%	309,100	0.0%	309,200	0.1%	320,800	3.8%									
Sonoma	853,400	1,186,200	1,189,700	0.3%	1,188,100	0.2%	1,189,100	0.2%	1,188,200	0.2%	1,133,700	-4.4%									
Marin	512,000	637,100	640,900	0.6%	640,700	0.6%	640,900	0.6%	640,700	0.6%	622,500	-2.3%									
Regional Total	13,128,600	17,772,800	17,868,100	0.5%	17,852,100	0.4%	17,842,300	0.4%	17,861,500	0.5%	16,975,000	-4.5%									

¹Average weekday daily vehicle trips include intra-regional personal travel and exclude inter-regional and truck trips.

Source: Metropolitan Transportation Commission, 2004

Table 3.1-9: AM Peak Period Regional VMT by Facility Type and Volume to Capacity (V/C) Ratio (2000 to 2030)

	2000	2030 Project	2030 No Project	Difference from Proposed Project	2030 Financially Constrained	Difference from Proposed Project	2030 Financially Constrained + HOT	Difference from Proposed Project	2030 Financially Constrained + Sales Tax	Difference from Proposed Project	2030 TRANSDEF Smart Growth	Difference from Proposed Project
Freeways												
< 0.75 V/C	6,073,100	7,037,400	5,422,500	-22.9%	5,903,500	-16.1%	7,025,100	-0.2%	6,005,800	-14.7%	5,469,000	-22.3%
0.75 to 1.00 V/C	5,012,500	6,234,700	6,927,500	11.1%	6,866,600	10.1%	6,361,800	2.0%	6,844,400	9.8%	6,953,000	11.5%
> 1.00 V/C	819,500	1,557,200	1,939,100	24.5%	1,782,500	14.5%	1,814,900	16.5%	1,769,100	13.6%	1,741,900	11.9%
TOTAL	11,905,100	14,829,300	14,289,100	-3.6%	14,552,600	-1.9%	15,201,800	2.5%	14,619,300	-1.4%	14,163,900	-4.5%
Expressways and Arterials												
< 0.75 V/C	5,469,900	6,323,100	6,343,300	0.3%	6,425,200	1.6%	6,102,700	-3.5%	6,398,500	1.2%	6,184,700	-2.2%
0.75 to 1.00 V/C	1,043,900	1,739,600	2,229,700	28.2%	2,128,100	22.3%	1,693,400	-2.7%	2,202,500	26.6%	1,866,300	7.3%
> 1.00 V/C	118,800	244,500	319,700	30.8%	305,700	25.0%	221,300	-9.5%	294,900	20.6%	276,100	12.9%
TOTAL	6,632,600	8,307,200	8,892,700	7.0%	8,859,000	6.6%	8,017,400	-3.5%	8,895,900	7.1%	8,327,100	0.2%
All Facilities												
< 0.75 V/C	11,543,000	13,360,500	11,765,800	-11.9%	12,328,700	-7.7%	13,127,800	-1.7%	12,404,300	-7.2%	11,653,700	-12.8%
0.75 to 1.00 V/C	6,056,400	7,974,300	9,157,200	14.8%	8,994,700	12.8%	8,055,200	1.0%	9,046,900	13.5%	8,819,300	10.6%
> 1.00 V/C	938,300	1,801,700	2,258,800	25.4%	2,088,200	15.9%	2,036,200	13.0%	2,064,000	14.6%	2,018,000	12.0%
TOTAL	18,537,700	23,136,500	23,181,800	0.2%	23,411,600	1.2%	23,219,200	0.4%	23,515,200	1.6%	22,491,000	-2.8%

¹AM peak period is two hours.

²Freeways include Freeways and Freeway-to-Freeway connectors. Expressways and Arterials include all other facilities.

³LOS - Level of Service measures traffic density in a range of A to F.

⁴LOS A is free-flow conditions with no delay; LOS D-E are more congested conditions with some delay possible; LOS F represents conditions of over-capacity and significant delay.

Source: Metropolitan Transportation Commission, 2004

Table 3-1-10: Travel Data (2000 to 2030)

	2000	2030 Project	2030 No Project	Difference from Proposed Project	2030 Financially Constrained	Difference from Proposed Project	2030 Financially Constrained + HOT	Difference from Proposed Project	2030 Financially Constrained + Sales Tax	Difference from Proposed Project	2030 TRANSDEF Smart Growth	Difference from Proposed Project
Vehicles in Use	4,781,500	7,143,300	7,227,700	1.2%	7,216,200	1.0%	7,203,400	0.8%	7,225,900	1.2%	7,001,200	-2.0%
Average Daily VMT	143,495,300	200,878,200	203,072,600	1.1%	202,823,500	1.0%	202,480,900	0.8%	203,063,100	1.1%	196,465,700	-2.2%
Engine Starts	32,053,000	45,167,000	45,712,000	1.2%	45,634,000	1.0%	45,547,000	0.8%	45,700,000	1.2%	44,278,000	-2.0%

Source: Metropolitan Transportation Commission, 2004

Table 3.1-11: Emission Estimates for Criteria Pollutants Using EMFAC2002 Factors (2000 to 2030) (in tons per day)

	2000	2030 Project	2030 No Project	Difference from Proposed Project	2030 Financially Constrained	Difference from Proposed Project	2030 Financially Constrained + HOT	Difference from Proposed Project	2030 Financially Constrained + Sales Tax	Difference from Proposed Project	2030 TRANSDEF Smart Growth	Difference from Proposed Project
ROG	214.65	37.44	38.06	1.7%	37.91	1.3%	37.78	0.9%	37.98	1.4%	36.79	-1.7%
NOx	363.41	54.64	55.53	1.6%	55.35	1.3%	55.11	0.9%	55.46	1.5%	53.74	-1.6%
CO	2279.63	290.18	297.34	2.5%	295.56	1.9%	293.18	1.0%	296.12	2.0%	286.73	-1.2%
PM ₁₀	93.92	126.52	128.22	1.3%	127.94	1.1%	127.64	0.9%	128.13	1.3%	124.16	-1.9%
PM _{2.5}	21.13	26.40	26.87	1.8%	26.75	1.3%	26.66	1.0%	26.84	1.7%	25.96	-1.7%

Source: Metropolitan Transportation Commission, 2004

LAND USE, HOUSING, AND SOCIAL ENVIRONMENT

Farmlands

According to the GIS analysis (as described in the Method of Analysis section of Chapter 2.3), each alternative has less of a potential impact on farmland than the Proposed Project because the alternatives include fewer transportation improvements than the Proposed Project. As shown in Table 3.1-12, of the alternatives, the Financially Constrained Plus Sales Tax alternative would impact the greatest amount of farmland and the TRANSDEF Smart Growth alternative would have the least effect. Both the Proposed Project and each alternative contain more road widening projects than extensions, intersections, or new roads.

- The No Project alternative could potentially affect 734 acres of farmland in 14 projects in six corridors. Eight of 14 are widening projects. The North Bay East-West corridor would be the most impacted.
- The Financially Constrained alternative could potentially affect 2,425 acres of farmland in 43 projects in 10 corridors. Twenty-nine of 43 are widening projects. The Sunol Gateway and Silicon Valley corridors would be the most impacted.
- The Financially Constrained Plus Sales Tax alternative could potentially affect 2,701 acres of farmland in 53 projects in 10 corridors. Thirty-five of 53 are widening projects. This alternative would cause the greatest impacts in the Sunol Gateway and Silicon Valley corridors.
- The Financially Constrained Plus HOT alternative could potentially affect 2,551 acres of farmland in 46 projects in 10 corridors. Thirty-five of 46 are widening projects. This alternative would cause the greatest impacts in the Sunol Gateway and Silicon Valley corridors.
- The TRANSDEF Smart Growth alternative could potentially affect 889 acres of farmland in nine projects in five corridors. Five of nine are widening projects. The Silicon Valley corridor would be the most impacted.

Table 3.1-12: Type and Amount (in acres) of Farmland Potentially Affected by Alternatives

Type	2030 Project	2030 No Project	2030 Financially Constrained	2030 Financially Constrained + Sales Tax	2030 Financially Constrained + HOT	2030 TRANSDEF Smart Growth
Farmland of Local Importance	651	218	292	443	292	145
Farmland of Statewide Importance	167	19	79	101	87	28
Grazing Land	1,674	387	1,414	1,467	1,516	529
Prime Farmland	840	89	580	628	594	104
Unique Farmland	97	20	89	63	61	21
Total Farmland in Acres	3,430	734	2,425	2,701	2,551	889

Source: Dyett and Bhatia, 2004

Land Use Disruptions/Displacement

Using the GIS analysis, each alternative has less potential to disrupt existing land use than the Proposed Project, as shown in Table 3.1-13. Of the alternatives, the Financially Constrained Plus Sales Tax alternative could potentially disrupt the most existing land uses, and the No Project alternative has the least potential to disrupt land uses. In both the Proposed Project and each alternative, employment and residential areas would be equally affected, and at a much higher rate than urban open space.

- The No Project alternative would impact significantly fewer existing land uses than the proposed project – 1,053 acres in 11 projects in six corridors. Fifty percent is residential land. Eight of 11 are widening projects. Effects would be greatest in the Golden Gate corridor.
- The Financially Constrained alternative would impact fewer existing land uses than the Proposed Project – 3,676 acres in 99 projects in 11 corridors. Commercial and residential uses would be equally affected. Effects would be greatest in the Silicon Valley corridor.
- The Financially Constrained Plus Sales Tax alternative would impact fewer existing land uses than the Proposed Project – 4,025 acres in 123 projects in 11 corridors. Commercial and residential uses would be equally affected. Effects would be greatest in the Silicon Valley Corridor.
- The Financially Constrained Plus HOT alternative would impact fewer existing land uses than the Proposed Project – 4,070 acres in 105 projects in 11 corridors. Commercial and residential uses would be equally affected. Effects would be greatest in the Silicon Valley Corridor.
- The TRANSDEF Smart Growth alternative would impact significantly fewer existing land uses than the proposed project – 1,431 acres in 36 projects in nine corridors. Commercial and residential uses would be equally affected. Effects would be greatest in the Peninsula Corridor.

Table 3.1-13: Existing Land Use Acres Affected by Proposed Project and Alternatives

Land Use	2030 Project	2030 No Project	2030 Financially Constrained	2030 Financially Constrained +SalesTax	2030 Financially Constrained +HOT	2030 TRANSDEF Smart Growth
Employment Areas	2,564	311	1,568	1,699	1,693	583
Residential	2,419	518	1,515	1,663	1,717	646
Urban Open Space	857	224	593	664	660	203
Total	5,840	1,053	3,676	4,025	4,070	1,431

Source: Dyett and Bhatia, 2004

Community Disruption

Short Term-Impacts. Many of the projects in all of the alternatives involve significant construction activity with the potential for intermittent disruption of normal activities in adjacent neighborhoods and communities. The level of disruption is likely to be generally proportional to the magnitude of the financial commitments required for the respective alternatives. Even the No Project alternative would result in some short-term community disruption, as it assumes construction of projects with currently committed funding. The Proposed Project has the largest regional financial investment and the longest list of construction projects and, hence, would have the greatest potential for short-term community disruption. The Financially Constrained plus Sales Tax alternative would have less construction-related disruption as would the other alternatives, in the following descending order: Financially Constrained Plus HOT Lanes, Financially Constrained and TRANSDEF Smart Growth. The TRANSDEF Smart Growth alternative would probably have a lower level of direct impact from construction of transportation improvements than even the No Project alternative, because of its emphasis on the improvement of existing transit, and its elimination of some large, committed construction projects.

Long-Term Impacts. The transportation improvements in the Transportation 2030 Plan have been screened through the local General Plan process and do not conflict with the respective communities' visions for their futures. Indeed, some projects are intended to mitigate past disruptions by connecting neighborhoods split by transportation corridors (bike/pedestrian trails and bridges) or to mitigate for the impacts from the ubiquity of autos in our society (by-pass and traffic calming projects). Other projects, however, can involve permanent changes to selected existing communities by intensifying development near transit nodes.

The No Project alternative would have the least potential to disrupt existing communities, while the TRANSDEF Smart Growth alternative would have the most potential. In between, the Financially Constrained, Financially Constrained Plus HOT, then the Financially Constrained Plus Sales Tax and finally the Proposed Project would have increasingly higher potential for long-term community disruption impacts.

The TRANSDEF Smart Growth alternative would have a higher potential for long-term community disruption, as it calls for increasing the housing and population densities of the region's densest communities, in many cases to levels that are higher than anticipated in the currently adopted General Plans and ABAG's Projections 2003. This is consistent with its assumptions of a higher proportion of multi-family dwellings, and higher urban densities and higher costs for automobile use. The long-term impacts for the TRANSDEF Smart Growth alternative come in two forms: one would be the effect of the transportation improvements themselves (i.e., intensified transit service levels would result in increased noise and traffic impacts and affect a number redeveloped and densely populated communities in the urban travel corridors); and the other would be the TRANSDEF land use assumptions (i.e., existing residents would experience impacts of more intensified development and population activity compared to their existing living environment). These potential effects can be mitigated, and their magnitude and duration are unknown, so the differences among the alternatives, except for the No Project alternatives, may not be significant for this impact category.

Consistency with Local Plans

With the exception of the TRANSDEF Smart Growth alternative, all of the projects in all of the alternatives have been pre-screened for consistency with applicable local General Plans and Transportation Plans. The TRANSDEF Smart Growth alternative includes some projects and programs that have not been processed through the traditional public review process by the city, county, transit operator, county Congestion Management Agency, and/or MTC, and which may, therefore, not be consistent with adopted local plans.

In some jurisdictions, as previously noted, *Projections 2003* envisions policy changes at the local level. Although communities have not yet responded to *Projections 2003* by amending their General Plans to accommodate those projections, the differences in the TRANSDEF Smart Growth projections relative to *Projections 2003* are an order of magnitude greater than what is envisioned in local General Plans.

The transit-oriented development (TOD) components of the TRANSDEF Smart Growth alternative assume higher residential densities in the region's larger cities than are anticipated in their General Plans. By way of example, comparing the projected housing need under the TRANSDEF Smart Growth alternative's land use assumptions and the planned residential development potential per local General Plans in San Francisco, San Jose and the Walnut Creek/Lamorinda subdistrict shows the unplanned growth to be on the order of 134,000 to 155,000 housing units (see Table 3.1-14)⁴. The planned residential development potential shown in Table 3.1-14 reflects housing development not only on vacant residential land and residential infill sites but also on non-residential sites judged suitable for housing. This table notes that there is a "shortfall" under *Projections 2003* and the TRANSDEF Smart Growth alternative land use assumptions. TRANSDEF'S land use assumptions also imply lower buildout levels in many suburban communities than is assumed in their current General Plans. ABAG's *Draft Projections 2005 Monitoring Report* points out that many local general plans are out-of-date and so may understate development potential in TOD areas. ABAG's *Projections 2003* are, in the words of the Monitoring Report, "aggressive in their attempt to move the region toward the development pattern portrayed in the Smart Growth Vision."⁵ The TRANSDEF Smart Growth alternative goes out further with its own assumptions.

While the other alternatives conform, in principle, to adopted General Plans, they could affect the rate of buildout for many communities, as the financial constraints and differing focuses of the respective alternatives can greatly affect the timing for implementation of specific improvements. This, in turn, can affect the timing of planned residential, commercial and industrial development.

⁴ ABAG's Local Policy Survey of existing General Plan buildout potential also reveals lower dwelling unit potential than the TRANSDEF alternative, with 71,996 units reported for San Francisco, 64,965 for San Jose, and 10,368 for Lafayette, Moraga, Orinda and Walnut Creek.

⁵ ABAG, *Draft Projections 2005 Monitoring Report, September 2004*, pg. 27

Table 3.1-14: Comparison of TRANSDEF'S Land Use Assumptions and Residential Development Potential in General Plans

Aggregated Superdistricts	Increase in Households		Total Units Needed	Planned Residential Development Potential Per General Plans	Shortfall - Unplanned Growth with TRANSDEF Smart Growth
	(A) ABAG: 2000-2030	(B) Additional Households with TRANSDEF Land Use Assumptions	Columns A + B + Units for 5% vacancy Rate	(Housing Units)	(Housing Units)
San Francisco	72,897	39,693	118,220	29,190 to 45,450 ¹	72,770 - 88,030
San Jose	67,512	5,145	76,290	39,335 to 45,554 ²	30,736-36,955
Walnut Creek					
Lamorinda	11,995	21,596	35,270	51,923	30,078
Total					133,584 – 155,063

1. New housing construction potential and maximum buildout capacity with re-zoning after environmental review in residential districts, neighborhood commercial districts, mixed use districts, Downtown, Industrial Districts and Mission Bay per Tables I-56 and I-59 San Francisco Housing Element, May 2004.

2. Planned housing supply – average yield and maximum yield – from vacant land with residential zoning, vacant land with non-residential zoning, non-vacant land planned for housing and non-vacant land in specific plan areas planned for housing per Table 38, San Jose General Plan Housing Element, April 2003.

3. Per local general plans: 2,305 units in Walnut Creek; 839 units in Moraga, 1,041 units in Orinda and 1,007 units in Lafayette.

Sources: ABAG, 2003, TRANSDEF Smart Growth Alternative, and local General Plans

ENERGY

The energy analysis found that the No Project alternative would result in the lowest level of energy consumption (see Table 3.1-15), primarily because very little new construction (and construction energy consumption) would occur and transit energy use would be the lowest of all alternatives. Of the “build” alternatives, the Financially Constrained Plus HOT lanes alternative would consume the least amount of energy, although it would be very close to the TRANSDEF Smart Growth alternative. Financially Constrained Plus HOT lanes alternative’s lower energy consumption is due to less new construction combined with low on-road vehicle VMT and transit.

Table 3.1-15: Estimated Daily Direct and Indirect Energy Consumption (in Billion BTUs)

	2000	2030 No Project	2030 Project	2030 Financially Constrained	2030 Financially Constrained + Sales Tax	2030 Financially Constrained + HOT	2030 TRANSDEF Smart Growth
On-road vehicles	53.40	77.16	71.38	74.72	75.35	69.10	71.04
Transit vehicles	33.81	29.88	50.34	30.71	36.85	30.72	37.91
Direct energy Total	87.20	107.04	121.72	105.43	112.20	99.82	108.95
Manufacturing and Maintenance	27.93	34.90	35.18	35.06	35.12	34.33	33.63
Construction	-	1.10	12.12	9.38	4.55	10.14	2.85
Indirect Energy Total	27.93	36.00	47.30	44.45	39.68	44.46	36.48
Total Daily Energy	115.13	143.04	169.02	149.88	151.88	144.28	145.44
Change compared to 2000	-	24.2%	46.8%	30.2%	31.9%	25.3%	26.3%
Change compared to 2030 No Project	-	-	18.2%	4.8%	6.2%	0.9%	1.7%
Per Capita Daily Energy Usage (BTUs)	16,972	16,291	19,250	17,070	17,298	16,433	16,564

BTU: British Thermal Units

Source: ESA 2004, MTC Model Outputs 2004

NOISE

As shown in the last row of data in Table 3.1-16, the Financially Constrained Plus HOT alternative would cause the smallest increase in the overall percentage of Bay Area wide roadway miles exposed to noise levels at or above 66 dBA relative to other alternatives evaluated; the percentage increase in roadway miles would be less than one percent, whereas all other alternatives would cause an increase of closer to two percent. In contrast, the TRANSDEF Smart Growth alternative would result in the smallest increase in the overall percentage of Bay Area wide roadway miles where noise levels would increase by 3 dBA or more relative to Base Year 2000 conditions (see the last row of data in Table 3.1-17). The TRANSDEF Smart Growth alternative would also generate significantly fewer daily vehicle trips than the Proposed Project or other alternatives. With respect to transit use, the TRANSDEF Smart Growth alternative would include new transit improvement projects not included in the Proposed Project or other alternatives. Long-term noise impacts associated with transit use would likely be greater with the TRANSDEF Smart Growth alternative than the Proposed Project and other alternatives. Considering the combined effect of traffic and transit-related noise impacts, it is expected that the Financially Constrained Plus HOT alternative would result in the least amount of impacts on noise.

Table 3.1-16: Roadway Directional Miles > 66 dBA Noise Level, and Total Directional Miles, by Roadway Type and County

County	Roadway Type	2000			2030 No Project			Net Change from 2000			2030 Project			Net Change from 2000			2030 Financially Constrained			Net Change from 2000					
		# over 66 dBA	% over 66 dBA	Total	# over 66 dBA	% over 66 dBA	Total	# over 66 dBA	% over 66 dBA	Total	# over 66 dBA	% over 66 dBA	Total	# over 66 dBA	% over 66 dBA	Total	# over 66 dBA	% over 66 dBA	Total	# over 66 dBA	% over 66 dBA	Total			
San Francisco	Freeways	52	53	99.2%	52	53	99.2%	0	0	0.0%	52	53	99.2%	164	170	96.7%	0	0	0.0%	52	53	99.2%	0	0	0.0%
	Expressways	1	2	43.6%	1	2	43.6%	0	0	0.0%	1	2	43.6%	15	31	49.2%	4	0	12.6%	1	2	43.6%	0	0	0.0%
	Arterials	17	631	2.6%	26	633	4.0%	9	2	1.4%	27	633	4.3%	9	1,130	0.8%	3	68	0.2%	26	633	4.1%	9	2	1.5%
San Mateo	Freeways	164	170	96.9%	165	170	96.9%	0	0	0.1%	164	170	96.7%	164	170	96.7%	0	0	-0.2%	165	170	97.3%	1	0	0.4%
	Expressways	12	31	36.6%	16	31	49.7%	4	0	13.1%	15	31	49.2%	15	31	49.2%	4	0	12.6%	16	31	50.5%	4	0	13.9%
	Arterials	6	1,062	0.6%	9	1,130	0.8%	3	68	0.2%	9	1,130	0.8%	9	1,130	0.8%	3	68	0.2%	8	1,130	0.7%	2	68	0.2%
Santa Clara	Freeways	311	318	97.8%	319	326	97.9%	7	7	0.1%	325	333	97.7%	14	14	0.0%	317	328	96.7%	14	14	0.0%	6	10	-1.1%
	Expressways	124	240	51.8%	160	235	68.2%	36	-6	16.4%	156	228	68.3%	156	228	68.3%	31	-13	16.5%	169	235	72.0%	45	-6	20.3%
	Arterials	76	2,065	3.7%	117	2,067	5.7%	41	2	2.0%	113	2,073	5.5%	113	2,073	5.5%	38	9	1.8%	106	2,072	5.1%	30	8	1.4%
Alameda	Freeways	302	305	99.0%	298	305	97.9%	-4	0	-1.2%	302	305	99.0%	302	305	99.0%	0	0	0.0%	308	316	97.4%	6	11	-1.6%
	Expressways	13	36	37.6%	21	45	46.3%	7	9	8.7%	23	45	51.1%	23	45	51.1%	9	9	13.5%	23	45	51.4%	10	9	13.8%
	Arterials	62	1,782	3.5%	86	1,811	4.7%	24	29	1.3%	92	1,817	5.1%	92	1,817	5.1%	30	34	1.6%	93	1,816	5.1%	31	33	1.6%
Contra Costa	Freeways	192	194	99.1%	183	184	99.4%	-9	-10	0.3%	193	195	98.8%	193	195	98.8%	1	1	-0.2%	194	195	99.2%	1	1	0.1%
	Expressways	2	17	13.0%	25	45	54.7%	22	28	41.8%	15	34	42.2%	15	34	42.2%	12	18	29.2%	15	34	42.2%	12	18	29.2%
	Arterials	23	1,532	1.5%	41	1,551	2.6%	18	19	1.1%	41	1,554	2.6%	41	1,554	2.6%	17	22	1.1%	42	1,552	2.7%	19	20	1.2%
Solano	Freeways	167	171	97.7%	171	174	98.3%	4	3	0.6%	171	174	98.3%	171	174	98.3%	4	3	0.6%	171	174	98.3%	4	3	0.6%
	Expressways	37	49	76.1%	35	60	58.3%	-3	11	-17.8%	38	72	52.7%	38	72	52.7%	1	23	-23.4%	39	72	54.3%	2	23	-21.8%
	Arterials	34	732	4.7%	60	734	8.2%	26	2	3.5%	60	742	8.1%	60	742	8.1%	26	10	3.4%	55	742	7.5%	21	10	2.8%
Napa	Freeways	10	10	100.0%	24	24	100.0%	14	14	0.0%	24	24	100.0%	24	24	100.0%	14	14	0.0%	24	24	100.0%	14	14	0.0%
	Expressways	44	47	92.8%	35	37	93.3%	-9	-10	0.6%	37	37	99.0%	37	37	99.0%	-7	-10	6.3%	37	37	99.0%	-7	-10	6.3%
	Arterials	13	488	2.8%	40	484	8.3%	27	-4	5.5%	40	484	8.3%	40	484	8.3%	27	-4	5.5%	40	484	8.3%	27	-4	5.5%
Sonoma	Freeways	131	131	100.0%	132	132	99.7%	1	1	-0.3%	132	132	100.0%	132	132	100.0%	1	1	0.0%	132	132	99.7%	1	1	-0.3%
	Expressways	15	20	75.9%	16	20	76.6%	0	0	0.7%	16	20	76.6%	16	20	76.6%	0	0	0.7%	16	20	80.7%	1	0	4.8%
	Arterials	6	1,136	0.5%	14	1,160	1.2%	8	24	0.7%	15	1,161	1.3%	15	1,161	1.3%	9	25	0.8%	19	1,160	1.7%	14	24	1.2%
Marin	Freeways	77	77	100.0%	77	77	99.6%	0	0	-0.4%	77	77	100.0%	77	77	100.0%	0	0	0.0%	77	77	99.6%	0	0	-0.4%
	Expressways	7	555	1.3%	9	559	1.6%	2	4	0.3%	8	560	1.5%	8	560	1.5%	1	5	0.2%	10	559	1.8%	3	4	0.6%
	Arterials	1,407	1,428	98.5%	1,420	1,444	98.4%	13	16	-0.1%	1,441	1,462	98.5%	1,441	1,462	98.5%	34	34	0.0%	1,440	1,469	98.0%	33	41	-0.5%
Bay Area	Freeways	248	442	56.2%	307	475	64.6%	58	32	8.4%	299	469	63.8%	299	469	63.8%	51	27	7.6%	316	476	66.2%	67	34	10.0%
	Expressways	244	9,982	2.4%	401	10,129	4.0%	156	147	1.5%	405	10,154	4.0%	405	10,154	4.0%	161	172	1.5%	400	10,148	3.9%	156	166	1.5%
	Arterials Combined	1,900	11,853	16.0%	2,127	12,047	17.7%	228	195	1.6%	2,146	12,086	17.8%	2,146	12,086	17.8%	246	233	1.7%	2,155	12,093	17.8%	256	241	1.8%

Source: Environmental Science Associates, 2004; Metropolitan Transportation Commission, 2004

Table 3.1-16 (continued): Roadway Directional Miles > 66 dBA Noise Level, and Total Directional Miles, by Roadway Type and County

County	Roadway Type	2030 Financially Constrained + HOT			Net Change from 2000			2030 Financially Constrained + Sales Tax			Net Change from 2000			2030 TRANSEEE Smart Growth			Net Change From 2000		
		# over 66 dBA	% over 66 dBA	Total	# over 66 dBA	% over 66 dBA	Total	# over 66 dBA	% over 66 dBA	Total	# over 66 dBA	% over 66 dBA	Total	# over 66 dBA	% over 66 dBA	Total	# over 66 dBA	% over 66 dBA	Total
San Francisco	Freeways	52	99.2%	53	0	0	0.0%	52	99.2%	53	0	0	0.0%	52	99.2%	53	0	0	0.0%
	Expressways	1	43.6%	2	0	0	0.0%	1	43.6%	2	0	0	0.0%	1	50.0%	2	0	0	6.4%
	Arterials	21	3.3%	633	4	2	0.6%	25	4.0%	633	8	2	1.3%	25	4.0%	633	9	2	1.4%
San Mateo	Freeways	164	96.7%	170	0	0	-0.2%	165	96.9%	170	0	0	0.1%	165	97.2%	170	1	0	0.3%
	Expressways	14	45.8%	31	3	0	9.2%	16	50.0%	31	4	0	13.4%	15	48.1%	31	4	0	11.6%
	Arterials	6	0.5%	1,130	0	68	0.0%	8	0.7%	1,132	1	70	0.1%	10	0.9%	1,131	4	69	0.3%
Santa Clara	Freeways	320	98.2%	326	8	7	0.4%	319	97.1%	328	7	10	-0.7%	318	97.8%	326	7	7	0.0%
	Expressways	151	64.5%	235	27	-6	12.7%	165	70.3%	235	41	-6	18.6%	156	66.6%	235	32	-6	14.8%
	Arterials	84	4.1%	2,072	8	8	0.4%	104	5.0%	2,071	28	6	1.3%	108	5.2%	2,066	32	2	1.6%
Alameda	Freeways	302	99.2%	305	0	0	0.1%	304	96.2%	316	2	11	-2.9%	299	98.2%	305	-2	0	-0.8%
	Expressways	21	47.7%	45	8	9	10.1%	23	51.4%	45	10	9	13.8%	22	56.9%	39	9	4	19.3%
	Arterials	65	3.6%	1,816	3	33	0.1%	93	5.1%	1,822	30	39	1.6%	86	4.8%	1,808	24	26	1.3%
Contra Costa	Freeways	193	98.9%	195	1	1	-0.1%	207	99.2%	208	14	14	0.2%	193	99.2%	195	1	1	0.1%
	Expressways	12	36.0%	34	10	18	23.0%	8	39.4%	21	6	5	26.4%	7	32.0%	21	5	5	19.0%
	Arterials	30	1.9%	1,552	7	20	0.4%	38	2.4%	1,570	14	38	0.9%	36	2.3%	1,554	13	22	0.8%
Solano	Freeways	171	98.1%	174	4	3	0.4%	171	98.3%	174	4	3	0.6%	171	98.1%	174	4	3	0.4%
	Expressways	38	53.2%	72	1	23	-22.9%	39	53.8%	72	1	23	-22.3%	47	76.5%	61	9	12	0.4%
	Arterials	58	7.9%	742	24	10	3.2%	58	7.8%	742	23	10	3.1%	64	8.7%	730	29	-2	4.0%
Napa	Freeways	24	100.0%	24	14	14	0.0%	24	100.0%	24	14	14	0.0%	24	100.0%	24	14	14	0.0%
	Expressways	37	99.0%	37	-7	-10	6.3%	37	100.0%	37	-6	-10	7.2%	37	99.0%	37	-7	-10	6.3%
	Arterials	40	8.3%	484	27	-4	5.5%	40	8.2%	484	26	-4	5.4%	40	8.3%	484	27	-4	5.5%
Sonoma	Freeways	132	100.0%	132	1	1	0.0%	132	100.0%	132	1	1	0.0%	132	100.0%	132	1	1	0.0%
	Expressways	16	76.6%	20	0	0	0.7%	16	80.7%	20	1	0	4.8%	16	80.7%	20	1	0	4.8%
	Arterials	13	1.1%	1,160	8	24	0.6%	15	1.3%	1,167	9	31	0.8%	15	1.3%	1,160	9	24	0.8%
Marin	Freeways	77	99.6%	77	0	0	-0.4%	77	99.6%	77	0	0	-0.4%	77	100.0%	77	0	0	0.0%
	Expressways	7	1.3%	559	0	4	0.0%	11	1.9%	559	4	4	0.7%	9	1.7%	559	2	4	0.4%
	Arterials	1,435	98.6%	1,455	28	27	0.1%	1,450	97.8%	1,482	43	54	-0.7%	1,432	98.4%	1,454	25	26	-0.1%
Bay Area	Freeways	291	61.1%	476	43	34	4.9%	305	65.9%	463	57	21	9.7%	301	67.4%	447	53	5	11.2%
	Expressways	325	3.2%	10,148	81	166	0.8%	389	3.8%	10,180	145	197	1.4%	393	3.9%	10,126	149	144	1.4%
	Arterials	2,051	17.0%	12,079	151	227	0.9%	2,144	17.7%	12,125	245	272	1.7%	2,127	17.7%	12,028	227	175	1.7%

Source: Environmental Science Associates, 2004; Metropolitan Transportation Commission, 2004

Chapter 3.1: Alternatives to the Project

Table 3.1-17: Roadway Directional Miles with Significant Increase in Noise Levels (> 3 dBA), Base Year 2000 to Year 2030 Alternatives

County	Roadway Type	2030 No Project			2030 Project			2030 Financially Constrained			2030 Financially Constrained + HOT			2030 Financially Constrained + Sales Tax			2030 TRANSEDEF Smart Growth		
		> 3 dBA	Total	% with > 3 dBA	> 3 dBA	Total	% with > 3 dBA	> 3 dBA	Total	% with > 3 dBA	> 3 dBA	Total	% with > 3 dBA	> 3 dBA	Total	% with > 3 dBA	> 3 dBA	Total	% with > 3 dBA
San Francisco	Freeways	0	53	0.0%	2	53	4.3%	0	53	0.0%	1	53	1.9%	0	53	0.0%	0	53	0.7%
	Expressways	<1	2	28.2%	<1	2	28.2%	<1	2	28.2%	0	2	0.0%	<1	2	28.2%	<1	2	28.2%
	Arterials	88	625	14.0%	93	625	14.8%	100	625	15.9%	124	625	19.9%	99	625	15.9%	82	625	13.1%
San Mateo	Freeways	1	170	0.8%	7	170	4.3%	2	170	1.3%	6	170	3.6%	6	170	3.3%	1	170	0.8%
	Expressways	6	31	19.2%	6	31	18.4%	8	31	25.3%	3	31	9.6%	8	31	25.3%	6	31	20.4%
	Arterials	137	1,124	12.2%	144	1,124	12.8%	169	1,124	15.0%	127	1,124	11.3%	178	1,122	15.8%	146	1,122	13.0%
Santa Clara	Freeways	20	321	6.4%	41	328	12.6%	23	321	7.1%	30	321	9.5%	23	321	7.2%	19	321	5.9%
	Expressways	28	235	11.9%	21	228	9.3%	34	235	14.5%	31	235	13.2%	30	235	12.6%	16	235	6.9%
	Arterials	498	2,059	24.2%	372	2,060	18.1%	478	2,060	23.2%	337	2,060	16.3%	486	2,059	23.6%	354	2,059	17.2%
Alameda	Freeways	4	305	1.4%	7	305	2.2%	7	305	2.1%	19	305	6.3%	6	305	2.0%	3	305	1.1%
	Expressways	8	35	22.1%	11	35	31.2%	9	35	25.6%	12	35	33.9%	9	35	25.2%	7	35	20.3%
	Arterials	398	1,772	22.5%	276	1,773	15.6%	388	1,772	21.9%	245	1,772	13.8%	407	1,771	23.0%	281	1,769	15.9%
Contra Costa	Freeways	3	180	1.6%	15	190	7.7%	14	190	7.3%	16	190	8.4%	14	188	7.2%	12	188	6.2%
	Expressways	7	27	27.1%	8	17	50.0%	3	17	19.7%	1	17	5.5%	11	17	62.8%	6	17	37.0%
	Arterials	417	1,531	27.2%	332	1,531	21.6%	408	1,531	26.6%	312	1,531	20.4%	402	1,531	26.2%	281	1,531	18.3%
Solano	Freeways	5	171	2.9%	6	171	3.5%	5	171	2.7%	7	171	4.2%	4	171	2.5%	5	171	2.7%
	Expressways	14	57	24.9%	17	59	28.7%	18	59	30.3%	18	59	31.4%	17	59	29.5%	18	59	29.8%
	Arterials	233	715	32.5%	220	713	30.9%	229	713	32.2%	198	713	27.8%	222	713	31.1%	193	713	27.1%
Napa	Freeways	12	24	51.5%	11	24	48.5%	11	24	45.6%	11	24	48.5%	11	24	45.6%	12	24	51.5%
	Expressways	2	37	5.2%	0	37	0.0%	2	37	5.2%	3	37	9.1%	2	37	5.2%	0	37	0.0%
	Arterials	99	484	20.4%	57	484	11.8%	71	484	14.7%	56	484	11.7%	57	484	11.8%	49	484	10.1%
Sonoma	Freeways	6	120	4.8%	11	120	9.4%	5	120	4.3%	27	120	22.8%	6	120	4.7%	6	120	5.3%
	Expressways	0	20	0.0%	0	20	0.0%	0	20	0.0%	0	20	0.0%	0	20	0.0%	0	20	0.0%
	Arterials	151	1,119	13.5%	106	1,119	9.4%	142	1,119	12.7%	102	1,119	9.1%	129	1,114	11.6%	110	1,114	9.9%
Marin	Freeways	0	77	0.0%	11	77	14.5%	5	77	6.9%	9	77	12.1%	5	77	6.9%	0	77	0.0%
	Arterials	44	555	7.9%	34	555	6.1%	39	555	7.0%	35	555	6.3%	36	555	6.4%	41	555	7.4%
	Combined	2,181	11,847	18.4%	1,809	11,849	15.3%	2,169	11,848	18.3%	1,733	11,848	14.6%	2,166	11,837	18.3%	1,650	11,835	13.9%

Source: Environmental Science Associates, 2004; Metropolitan Transportation Commission, 2004

GEOLOGY AND SEISMICITY

Alternatives are listed in Table 3.1-18 by the number of projects located in areas susceptible to surface fault rupture, landslides, or liquefaction hazards. However, the total number of projects susceptible to these hazards does not clearly indicate the seismically superior alternative. For example, the reconstruction of a freeway overpass in an area prone to liquefaction would be considered a seismically beneficial impact as the more earthquake hazard prone overpass would be replaced. In addition, there are numerous unmapped projects included or excluded among the various alternatives that involve seismic upgrades, which are not captured in the table summary.

Table 3.1-18: Alternative Comparison of Number of Projects Susceptible to Surface Fault Rupture, Landslides or Liquefaction

Type of Hazard	2030 No Project	2030 Project	2030 Financially Constrained	2030 Financially Constrained +Sale Tax	2030 Financially Constrained + HOT	2030 TRANSDEF Smart Growth
Surface Fault Rupture	3	31	25	26	28	7
Landslides	4	31	20	25	24	7
Liquefaction	10	107	74	89	81	28
<i>Increase compared to No Project</i>						
Surface Fault Rupture	NA	28	22	23	25	4
Landslides	NA	27	16	21	20	3
Liquefaction	NA	97	64	79	71	18

NA = Not Applicable

Source: Environmental Science Associates, 2004

The Proposed Project results in the least seismic safety hazards of all the alternatives. Although it includes the most projects in areas susceptible to seismic hazards, the Proposed Project also includes the most projects that involve seismic retrofits or replacement of older, more earthquake-hazard prone facilities. The least advantageous alternative for seismic safety is difficult to quantify between the No Project and TRANSDEF Smart Growth alternatives as they include or exclude several projects that would benefit seismic safety. The overall number of construction projects in Table 3.1-18 presents a clearer analysis of potential impacts on soil resources. The superior alternative for this factor is the No Project, followed by the TRANSDEF Smart Growth alternative.

WATER RESOURCES

Alternatives are listed in Table 3.1-19 by the number of projects located in areas susceptible to flooding during a 100-year storm event. However, the total number of projects located within the 100-year floodplain is not the sole factor to consider when comparing alternatives for hydrology and water resources. Within the broader scope of potential increases in nonpoint source pollutants and runoff associated with both short-term construction and long-term increased impervious surface area, the No Project involves the fewest number of projects and the TRANSDEF Smart Growth alternative has the second-fewest number of projects.

Table 3.1-19: Alternative Comparison of Number of Projects Located within the 100 year Floodplain

	2030 No Project	2030 Project	2030 Financially Constrained	2030 Financially Constrained + Sale Tax	2030 Financially Constrained + HOT	2030 TRANSDEF Smart Growth
<i>Type of Hazard</i>						
100-year Floodplain	9	72	50	52	54	14
<i>Increase compared to No Project</i>						
100-year Floodplain	NA	+63	+41	+43	+45	+5
NA = Not Applicable						

Source: *Environmental Science Associates, 2004***BIOLOGICAL RESOURCES**

The No Project alternative would result in the fewest potential impacts on wetlands, special status species, and designated or proposed critical habitat (Table 3.1-20). Additionally, impacts on biologically unique or sensitive communities and long-term development or fragmentation of undeveloped lands are lowest under the No Project alternative. Under the five “build” alternatives, based on the number of projects that would affect biological resources, the analysis found that the TRANSDEF Smart Growth alternative has the fewest number of projects that could affect sensitive wetlands, special status species, and critical habitat.

The Proposed Project would likely result in the greatest potential impacts on wetlands, special status species, and designated or proposed critical habitat, due to the fact that the most new construction will occur under the Proposed Project. However, the precise impacts of this alternative on long-term development or fragmentation of undeveloped lands are not known. The Proposed Project would facilitate passage from urban centers to rural areas and could contribute to their growth; but the resulting development patterns would not necessarily fragment undeveloped lands. Among the alternatives, due to its larger magnitude, it is reasonable to conclude that the Proposed Project would have an incrementally greater impact on biologically unique or sensitive communities and long-term development or fragmentation of undeveloped lands.

Table 3.1-20: Comparison of Project Impacts to Wetlands, Special Status Species, and Critical Habitat between Alternatives.¹

Project Alternative	Project Type						Vision Element						Total Number of Projects Affecting Resource			
	Financially Constrained Element: Committed			Financially Constrained Element: New Commitment			Special Status Species			Wetlands			Critical Habitat			Critical Habitat
	Wetlands	Special Status Species	Critical Habitat	Wetlands	Special Status Species	Critical Habitat	Wetlands	Special Status Species	Critical Habitat	Wetlands	Special Status Species	Critical Habitat	Wetlands	Special Status Species	Critical Habitat	
2030 No Project	8	7	3	0	0	0	0	0	0	0	0	0	0	8	7	3
2030 Proposed Project	8	7	3	28	23	9	25	22	9	61	52	21				
2030 Financially Constrained	8	7	3	0	0	0	0	0	0	8	7	3				
2030 Financially Constrained + Sales Tax	8	7	3	13	11	6	10	10	6	31	28	15				
2030 Financially Constrained + HOT	8	7	3	5	3	2	5	3	2	18	13	7				
2030 TRANSDEF Smart Growth	2	2	0	3	2	1	3	2	1	7	6	2				

¹ Impacts are listed in this table according to the number of projects that would affect sensitive resources. This analysis attempts to capture the overall impact trends based on the number of number of potential projects that could have resource conflicts. The magnitudes of individual project impacts are not assessed in this analysis.

Source: Environmental Science Associates, 2004

VISUAL RESOURCES

The No Project alternative would have the fewest impacts on scenic resources. Among the other alternatives, TRANSDEF Smart Growth alternative would have the least impact in comparison with the Proposed Project, with only eight projects in designated scenic corridors or highway corridors eligible for designation and 18 projects total with potential visual impacts (see Table 3.1-21).

Table 3.1-21: Comparison of Criteria for Scenic Impacts, by Alternative

Criteria	2030 Proposed Project	2030 No Project	2030 Financially Constrained	2030 Financially Constrained + Sales Tax	2030 Financially Constrained + HOT	2030 TRANSDEF Smart Growth
1. Blocks panoramic views of significant features.	6	0	4	5	5	3
2. Alters the appearance of area near scenic highways.	40	6	25	32	27	8
3. Creates significant contrasts.	28	5	18	23	21	4
4. Adds an incongruous visual element.	6	1	4	5	4	3
Total Impacts	80	12	51	65	57	18

CULTURAL RESOURCES

Because it contains the fewest projects, the No Project alternative would have the least potential to disturb, disrupt, or significantly affect cultural resources, including historical, archeological, and paleontological resources and human remains. The TRANSDEF Smart Growth alternative would also have a limited impact. The other alternatives would have less of a potential to affect cultural resources than the Proposed Project, but the difference would not be significant.

GROWTH-INDUCING EFFECTS

As described in Chapter 2.11, the Proposed Project is not expected to induce growth in the region beyond that projected in ABAG's *Projections 2003*. Growth-inducing effects may occur at the local level, but these effects would be consistent with *Projections 2003*, which anticipate more infill and densification in urban areas.

The alternatives to the Proposed Project would not have regional growth inducing effects, as they are not producing infrastructure to accommodate more growth than is projected by ABAG. re. Similar to the Proposed Project, alternatives may result in local growth inducing effects, particularly for those alternatives that create new high capacity rail nodes, which could stimulate investment at and around these stations. The alternative that produces the most new light rail and rapid transit rail service would be the TRANSDEF Smart Growth alternative (62 percent of the transit seat miles is attributable to rail), where the other alternatives would have lower and comparable levels of rail service. (The TRANSDEF Smart Growth alternative would, however, have 36 percent less rail service than the Proposed Project). To the extent that urban bus service

would stimulate growth along arterial corridors, TRANSDEF has the second highest level of bus transit service of all the alternatives (Financially Constrained Plus Sales Tax alternative is the highest). However, this type of local growth would be subject to approval by local jurisdictions. There are no assurances that local governments will adopt policy changes and rezoning needed to implement these changes. As a consequence, the potential scope of these local growth-inducing effects and statistically significant differences among alternatives, except for the No Project alternative, cannot be determined precisely with any confidence.

Another gross measure that could be used to look at locational growth impacts of transportation investments would be relative differences in vehicle hours of delay by county, as significantly lower levels of delay could indicate enhanced attractiveness of an area for development. In this regard, the Financially Constrained plus HOT alternative produces the lowest vehicle hours of delays for most every county of the five alternatives (but delays are still higher overall by 8 percent compared to the Proposed Project). Among the other alternatives, the Financially Constrained alternative has lower delay for Alameda and Contra Costa counties and the TRANSDEF Smart Growth Alternative has the lowest delay for Santa Clara and Solano Counties. The No Project alternative has the highest delay for every county.

From the perspective of a jobs/housing balance and the growth-inducing impacts that imbalances may create, the residential land use assumptions made for the TRANSDEF Smart Growth alternative appear to exacerbate imbalances at the subregional level because they are not accompanied by development of employment opportunities. This could lead to localized growth-inducing effects because an imbalance, particularly where there are fewer jobs than employed residents, can result in growth inducement as local officials and developers take actions to add non-residential land uses and increase the job base. Looking at the 2030 differences in the ratios of jobs to employed residents for *Projections 2003* and the TRANSDEF Smart Growth alternative, summarized by superdistrict and county in Table 3.1-22, the TRANSDEF Smart Growth alternative's land use assumptions do not seem to further the goal of parity between job opportunities and the number of employed residents, which could have local growth-inducing impacts. For example, in San Francisco's Mission District, Fremont/Union City and Santa Rosa/Sebastopol, the projected ratio of jobs/employed residents with the TRANSDEF alternative would be lower in 2030 than with *Projections 2003*; in nearly all of these superdistricts, ABAG's *Projections 2003* showed the ratio moving closer to 1.0, while in 13 of the 34 superdistricts the ratio is worse under the TRANSDEF Smart Growth alternative.⁶ Further, in Sonoma and Napa counties, the ratio drops below 1.0, suggesting somewhat more out-commuting. These imbalances could have local growth-inducing effects as the jurisdictions affected seek more non-residential development to achieve parity between local jobs and the number of employed residents. The consequence of this reaction to the TRANSDEF Smart Growth alternative land use assumptions may be greater than the local growth-inducing potential of the Proposed Project.

⁶ In Santa Rosa/Sebastopol, the ratio increased from 1.14 to 1.26 consistent with Santa Rosa's role as a subregional employment center.

Table 3.1-22: Comparison of Projected 2030 Jobs/Housing Balance ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

Superdistrict	TRANSDEF Smart Growth		Percent Difference
	ABAG Projections 2003 Jobs/Employed Residents	Jobs/Employed Residents	
1 Downtown San Francisco	4.95	4.34	-12.3%
2 Richmond District	0.69	0.79	14.2%
3 Mission District	0.85	0.76	-10.0%
4 Sunset District	0.46	0.43	-5.9%
5 Daly City/San Bruno	1.18	1.22	3.4%
6 San Mateo/Burlingame	0.99	1.01	2.2%
7 Redwood City/Menlo Park	1.01	1.07	5.3%
8 Palo Alto/Los Altos	1.61	1.64	2.3%
9 Sunnyvale/Mountain View	2.28	2.34	2.6%
10 Saratoga/Cupertino	0.84	0.85	1.0%
11 Central San Jose	1.00	0.95	-5.3%
12 Milpitas/East San Jose	0.63	0.70	10.4%
13 South San Jose/Almaden	0.65	0.62	-4.4%
14 Gilroy/Morgan Hill	1.15	0.99	-14.2%
15 Livermore/Pleasanton	1.20	1.21	0.8%
16 Fremont/Union City	0.95	0.84	-12.1%
17 Hayward/San Leandro	0.94	1.05	11.7%
18 Oakland/Alameda	1.01	1.03	1.9%
19 Berkeley/Albany	1.09	1.27	17.1%
20 Richmond/El Cerrito	0.71	0.70	-2.2%
21 Concord/Martinez	0.85	0.91	7.0%
22 Walnut Creek/Lamorinda	1.05	1.02	-3.4%
23 Danville/San Ramon	0.78	0.69	-10.6%
24 Antioch/Pittsburg	0.55	0.40	-26.7%
25 Vallejo/Benicia	0.69	0.68	-1.5%
26 Fairfield/Vacaville	0.66	0.74	11.7%
27 Napa	1.02	0.92	-10.1%
28 St. Helena/Calistoga	1.21	1.07	-11.8%
29 Petaluma/Sonoma	0.95	0.86	-9.5%
30 Santa Rosa/Sebastopol	1.26	1.11	-11.9%
31 Healdsburg/Cloverdale	0.60	0.55	-8.1%
32 Novato	1.09	1.04	-4.9%
33 San Rafael	0.96	0.96	0.4%
34 Mill Valley/Sausalito	0.94	0.88	-6.4%
Bay Area	1.05	1.05	0.0%
San Francisco	1.49	1.41	-5.6%
San Mateo	1.07	1.11	3.6%
Santa Clara	1.12	1.14	1.2%
Alameda	1.02	1.05	2.2%
Contra Costa	0.76	0.75	-2.0%
Solano	0.67	0.71	6.4%
Napa	1.07	0.96	-10.5%
Sonoma	1.04	0.94	-9.5%
Marin	0.99	0.96	-3.2%

Source: ABAG Projections 2003; Dyett and Bhatia 2004

ENVIRONMENTALLY SUPERIOR ALTERNATIVE AMONGST ALTERNATIVES EVALUATED

As noted, the CEQA Guidelines require each EIR to identify the environmentally superior alternative among the alternatives analyzed. If the No Project alternative is identified as the environmentally superior alternative, then the EIR must identify another of the alternatives from among the alternatives analyzed.

There are numerous tradeoffs in impacts associated with the various alternatives. The alternatives also would result in varying degrees of achieving the Transportation 2030 Plan (Proposed Project) objectives.

Table 3.1-23 and Table 3.1-24 compare the environmental effects of the alternatives to the Proposed Project. A qualitative and numerical rating system is used for this assessment, rating the alternatives as to whether they would result in the same, worse, or better environmental impacts as the Proposed Project. There are two limitations of this type of ranking: first, the relative differences are no longer expressed in a ratio scale (e.g. how many mile of roadway or acres of land are affected and what the percentage differences are); and second, the rating system assumes each impact area has equal weight in the overall assessment, without considering scale or temporal differences (e.g. whether the effect is a one-time event or is on-going). That said, this system is useful as a starting point in assessing which alternative is environmentally superior.

Since the primary objectives of the Proposed Project are to improve system efficiency and mobility of people and goods in the Bay Area, an alternative that performs substantially worse than the Proposed Project with respect to transportation performance criteria would not achieve even the basic objectives of the Proposed Project.

As shown in Table 3.1-23, the Proposed Project is environmentally preferred in the transportation impact area because it is designed to accommodate the anticipated regional growth and increased travel demand over the next 25 years. Overall, the No Project alternative is the environmentally superior alternative because it would have comparatively less new construction activity and hence fewer environmental effects, particularly in the resource areas of energy, water, biology, visual, cultural, land use and growth inducement. The No Project alternative, however, cannot be selected as the environmentally superior alternative according to CEQA and would not achieve the proposed project objectives.

If the No Project alternative is excluded, the TRANSDEF Smart Growth alternative is the next environmentally superior alternative if all impact areas are artificially given equal weight. However, policy makers may value some issue areas as more important than others and the relative magnitude of impacts within each issue area must be considered in the adoption of a preferred alternative. If, based on project objectives, the transportation issue area is rated the most important of all issue areas, then the Proposed Project would perform better than all alternatives. For example, with the TRANSDEF Smart Growth alternative, a detailed breakdown of the four components of the transportation rating shows that the TRANSDEF Smart Growth alternative is the least beneficial when it comes to average travel time for work and non-work

trips and vehicle hours of delay, key indicators of how the transportation system is performing for the typical traveler.

Table 3.1-23: Comparison of Alternatives to the Proposed Transportation 2030 Plan

<i>Impact Area</i>	<i>No Project</i>	<i>Financially Constrained</i>	<i>Financially Constrained + Sales Tax</i>	<i>Financially Constrained + HOT</i>	<i>TRANSDEF Smart Growth</i>
Transportation*	5	4	4	3	4
Air Quality	3	3	3	3	③
Energy	①	2	2	1	1
Geology and Seismicity	4	②	3	3	4
Water Resources	①	2	3	3	1
Biological Resources	①	2	2	2	1
Noise	2	2	2	①	2
Visual Resources	①	2	3	3	2
Cultural Resources	①	2	3	3	2
Land Use, Housing, and Social Environment	②	3	3	3	3
Growth Inducement	②	3	3	3	3
<i>Total</i>	<i>23</i>	<i>27</i>	<i>31</i>	<i>28</i>	<i>26</i>

Relative to the Proposed Project: 1=Much more favorable; 2=More favorable; 3=Comparable; 4=Less favorable; 5=Much less favorable.

① Circles represent the environmentally superior alternative for each issue area.

* Proposed Project is the environmentally superior alternative for transportation issue area.

Despite the relatively favorable ratings for a number of the impact areas for the TRANSDEF Smart Growth alternative, there are several unanswered questions about the feasibility of this alternative and its ability to meet the project objectives.

- Foremost is the fact that the performance of the TRANSDEF Smart Growth alternative is predicated on land use assumptions that can not be realized without substantial governmental intervention, through regulation or new incentives to create public funding for housing and infrastructure improvements and increased levels of public services and facilities which would be needed by the proposed intensification of residential development in the urban core. Unresolved conflicts with local General Plans, community character and local economic development objectives also would affect implementation of the land use assumptions.
- A significant number of approved and funded transportation projects are excluded from the TRANSDEF Smart Growth alternative so funding can be shifted to other projects;

however, some of these funding re-allocations would require voter approval or rejection of prior voter mandates. In addition, the ability to shift funds normally used to construct projects to support daily operation of an expanded transit system has not been fully analyzed.

- While TRANSDEF presumes that regional agencies have certain authority and powers to impose new pricing strategies, these concepts have not been tested in a legislative or legal framework. Indeed, some pricing strategies such as parking cash-out are expressly limited in application by state law. The TRANSDEF Smart Growth alternative assumes regional funding commitments to specific projects established through years of planning and public involvement can be overturned and that the public will accept a new set of transportation priorities. There is also a question about the viability of the proposed pricing strategies on a regional scale and their effectiveness in achieving the outcomes envisioned in the TRANSDEF Smart Growth alternative given that most have not been previously implemented in the Bay Area. These include the universal employer parking cash out concept, a regional residential Ecopass program, and the concept of having MTC condition funds it allocates to local jurisdictions based on certain commute alternatives requirements. Some proposals would need to be implemented jurisdiction by jurisdiction and could require voter-approval.

Policy makers will need to decide if the underlying assumptions made for the TRANSDEF Smart Growth alternative are reasonable, feasible and consistent with and supportive of the Transportation 2030 Plan's goals and objectives. Also, policy makers will be required to judge the relative importance of the various issue areas in making their final decision. The Commission will address these questions during its deliberations on this EIR.

Table 3.1-24: Summary of Alternatives Comparison

Project	No Project	Financially Constrained	Financially Constrained + Sales Tax	Financially Constrained + HOT	TRANSDEF Smart Growth
Transportation					
Shortest average travel time per trip (e.g., 31.1 minutes for work trips).	Slightly longer average travel time for all trip types.	Slightly longer average travel time for all trip types.	Slightly longer average travel time for all trip types.	Slightly longer average travel time for all trip types except for slightly shorter average non-work trips.	Slightly longer average travel time for all trip types except for slightly shorter average truck trips.
High level of job accessibility by autos and transit.	Slightly poorer access to jobs by autos, and significantly poorer access to jobs by transit.	Equivalent access to jobs by autos, but much poorer access to jobs by transit.	Equivalent access to jobs by autos; considerably poorer access to jobs by transit.	Considerably poorer access to jobs by autos and transit.	Great improvement in access to jobs by autos and transit due largely to compact, transit-oriented land use patterns.
Increase in average weekday vehicle trips due to increased travel demand compared to existing (2000) conditions.	Equivalent number of average weekday vehicle trips compared to the Proposed Project.	Equivalent number of average weekday vehicle trips compared to the Proposed Project.	Equivalent number of average weekday vehicle trips compared to the Proposed Project.	Equivalent number of average weekday vehicle trips compared to the Proposed Project.	Slightly lower daily vehicle trips for Solano, Alameda, and Contra Costa counties.
Increased vehicle miles traveled at LOS F for all facility types compared to existing (2000) conditions.	Greater vehicle miles traveled at LOS F for all facility types compared to the Proposed Project.	Same as No Project alternative, except slightly fewer vehicle miles traveled at LOS F for fwys, expwys, and arterials.	Same as the Financially Constrained alternative.	Fewer vehicle miles at LOS F for expressways and arterials (9.5 percent reduction) due to the shift of vehicles to HOT lanes.	Greater amount of vehicle miles traveled at LOS F compared to the Proposed Project (roughly 12 percent increase).

Table 3.1-24: Summary of Alternatives Comparison

Project	No Project	Financially Constrained	Financially Constrained + Sales Tax	Financially Constrained + HOT	TRANSDEF Smart Growth
Air Quality					
Lower vehicle emissions for smog forming pollutants and carbon monoxide due primarily to improvements in automobile engines and fuels; higher particulate matter compared to 2000 levels due to increased amounts of airborne road dust produced by more autos using Bay Area roads.	Slightly higher emissions of ROG, NOx, CO, and PM ₁₀ and PM _{2.5} than the Proposed Project, but this difference is not significant.	Slightly higher emissions of ROG, NOx, CO, and PM ₁₀ and PM _{2.5} than the Proposed Project, but this difference is not significant.	Slightly higher emissions of ROG, NOx, CO, and PM ₁₀ and PM _{2.5} than the Proposed Project, but this difference is not significant.	Slightly higher emissions of ROG, NOx, CO, and PM ₁₀ and PM _{2.5} than the Proposed Project, but this difference is not significant.	Slightly lower emissions of ROG, NOx, CO, and PM ₁₀ and PM _{2.5} than the Proposed Project, but this difference is not significant.
Land Use					
A total of 3,430 acres of farmland could potentially be affected by 59 projects in 10 corridors.	Less farmland impacted: 734 acres in 14 projects in six corridors.	Less farmland impacted: 2,425 acres in 43 projects in 10 corridors.	Less farmland impacted: 2,701 acres in 53 projects in 10 corridors.	Less farmland impacted: 2,551 acres in 46 projects in 10 corridors.	Significantly less farmland impacted: only 889 acres in 9 projects in five corridors.
A total of 5,840 acres of existing land use could potentially be disrupted by 151 projects in 12 corridors.	Significantly fewer land uses disrupted: 1,053 acres in 11 projects in six corridors.	Fewer land uses disrupted: 3,676 acres in 99 projects in 11 corridors.	Fewer land uses disrupted: 4,025 acres in 123 projects in 11 corridors.	Fewer land uses disrupted: 4,070 acres in 105 projects in 11 corridors.	Significantly fewer land uses disrupted: 1,431 acres in 36 projects in nine corridors.
Energy					
Increased consumption of direct and indirect energy types.	A 15.3% lower increase in energy consumption.	An 11.3% lower increase in energy consumption.	A 10.3% lower increase in energy consumption.	A 14.8% lower increase in energy consumption.	A 14% lower increase in energy consumption.

Table 3.1-24: Summary of Alternatives Comparison

Project	No Project	Financially Constrained	Financially Constrained + Sales Tax	Financially Constrained + HOT	TRANSDEF Smart Growth
Noise					
Significant temporary construction-related noise impacts on surrounding areas.	Temp. construction-related noise impacts. Far fewer projects=lower overall construction-related noise. Most impacts could be mitigated to a less-than-significant level.	Temp. construction-related noise impacts. Fewer projects=lower overall construction-related noise. Most impacts could be mitigated to a less-than-significant level.	Temp. construction-related noise impacts. Fewer projects=lower overall construction-related noise. Most impacts could be mitigated to a less-than-significant level.	Temp. construction-related noise impacts. Fewer projects=lower overall construction-related noise. Most impacts could be mitigated to a less-than-significant level.	Temp. construction-related noise impacts. Far fewer projects=lowest overall construction-related noise. Most impacts could be mitigated to a less-than-significant level.
1.7 percent overall increase in roadway miles exposed to noise levels at or above 66 dBA. 3 dBA or more increase in noise levels relative to 2000 conditions along 15.3 percent of the modeled roadways.	Slightly lower (1.6 percent) increase in roadway miles exposed to noise levels at or above 66 dBA. More modeled roadways (18.4 percent) experience a 3 dBA or more increase in noise levels relative to 2000.	Slightly higher (1.8 percent) increase in roadway miles exposed to noise levels at or above 66 dBA. More modeled roadways (18.3 percent) experience a 3 dBA or more increase in noise levels relative to 2000.	Equivalent increase in roadway miles exposed to noise levels at or above 66 dBA. More modeled roadways (18.3 percent) experience a 3 dBA or more increase in noise levels relative to 2000.	Lower (0.9 percent) increase in roadway miles exposed to noise levels at or above 66 dBA. Fewer modeled roadways (14.6 percent) experience a 3 dBA or more increase in noise levels relative to 2000.	Equivalent increase in roadway miles exposed to noise levels at or above 66 dBA. Fewer modeled roadways (13.9 percent) experience a 3 dBA or more increase in noise levels relative to 2000.
Forecast population and job growth served by Transportation 2030 Projects would increase traffic volumes and noise levels along some of the region's travel corridors.	95,246 additional daily vehicle trips could have an incrementally greater impact on noise levels along travel corridors in the region.	79,301 additional daily vehicle trips could have an incrementally greater impact on noise levels along travel corridors in the region.	88,670 additional daily vehicle trips could have an incrementally greater impact on noise levels along travel corridors in the region.	69,494 additional daily vehicle trips could have an incrementally greater impact on noise levels along travel corridors in the region.	877,133 fewer daily vehicle trips could have an incrementally smaller impact on noise levels along travel corridors in the region, but more transit use would cause higher long-term noise impacts.

Table 3.1-24: Summary of Alternatives Comparison

Project	No Project	Financially Constrained + Sales Tax	Financially Constrained + HOT	TRANSDEF Smart Growth
Geology and Seismicity				
Overall increase in seismic safety.	Less of an increase in seismic safety.	Less of an increase in seismic safety.	Less of an increase in seismic safety.	Less of an increase in seismic safety.
Increased soil erosion associated with construction.	Less of an increase in construction-related soil erosion.	Less of an increase in construction-related soil erosion.	Less of an increase in construction-related soil erosion.	Less of an increase in construction-related soil erosion.
Negligible increase in potential long-term maintenance or repair of soil expansion or settlement impacts.	Less of an increase in soil expansion or settlement impacts.	Negligible decrease in soil expansion or settlement impacts.	Negligible decrease in soil expansion or settlement impacts.	Negligible decrease in soil expansion or settlement impacts.
Water Resources				
Increased potential adverse impacts to water quality associated with construction.	Fewer potential adverse construction related impacts.	Fewer potential adverse construction related impacts.	Fewer potential adverse construction related impacts.	Fewer potential adverse construction related impacts.
Increased adverse impacts to water quality, flooding, or groundwater resources due to increased impervious surface area.	Smaller increases in impervious surface area.	Smaller increases in impervious surface area.	Smaller increases in impervious surface area.	Smaller increases in impervious surface area.
Biological Resources				
61 projects could result in the temp. disturbance to or permanent loss of wetlands.	Fewer (8) projects could affect wetland resources.	Fewer (31) projects could affect sensitive wetlands.	Fewer (18) projects could affect sensitive wetlands.	Fewer (7) projects could affect sensitive wetlands resources.
Greatest number of biologically unique or sensitive communities affected.	Substantially fewer impacts on biologically unique or sensitive communities.	Similar in magnitude to impacts under No Project.	Roughly 1/2 fewer biologically unique or sensitive communities affected.	Fewest number of biologically unique or sensitive communities affected of "Project alternatives."

Table 3.1-24: Summary of Alternatives Comparison

Project	No Project	Financially Constrained	Financially Constrained + Sales Tax	Financially Constrained + HOT	TRANSDEF Smart Growth
52 projects located in or adjacent to habitat for special status plant or wildlife species.	Fewer (7) projects could affect special status species.	Fewer (7) projects could affect special status species.	Fewer (28) projects could affect special status species.	Fewer (13) projects could affect special status species.	Fewer (6) projects could affect special status species.
21 projects occur within designated or proposed critical habitat for one or more listed species. Such impacts are not considered significant.	Fewer (3) projects occur within designated or proposed critical habitat. Such impacts are not considered significant.	Fewer (3) projects within designated or proposed critical habitat. Such impacts are not considered significant.	Fewer (15) projects within designated or proposed critical habitat. Such impacts are not considered significant.	Fewer (7) projects within designated or proposed critical habitat. Such impacts are not considered significant.	Only two projects occur within designated or proposed critical habitat. Such impacts are not considered significant.
The precise long-term effects on undeveloped lands are not known. It would facilitate passage from urban centers to rural areas and could contribute to their growth; however, the result would not necessarily fragment undeveloped lands.	Development or fragmentation of undeveloped lands would be substantially less.	Development or fragmentation of undeveloped lands would be comparable in magnitude. The rate of development is unknown.	Roughly 3/4 fewer critical habitats communities affected.	Roughly 1/3 fewer critical habitats communities affected.	Development or fragmentation of undeveloped lands would be substantially less.
Visual Resources					
Six projects could block panoramic views of significant features.	No views would be blocked.	Fewer (4) views would be blocked.	Fewer (5) views would be blocked.	Fewer (5) views would be blocked.	Half as many (3) views would be blocked.
Forty projects could alter the appearance of areas near scenic highways.	Only (6) scenic areas would be altered.	Fewer (25) scenic areas would be altered.	Fewer (32) scenic areas would be altered.	Fewer (27) scenic areas would be altered.	Significantly fewer (8) scenic areas would be altered.
28 projects could create significant contrasts with the existing landscape.	Significantly fewer (5) projects could create contrasts.	Fewer (18) projects could create contrasts.	Fewer (23) projects could create contrasts.	Fewer (21) projects could create contrasts.	Only four projects could create contrasts.

Table 3.1-24: Summary of Alternatives Comparison

Project	No Project	Financially Constrained	Financially Constrained + Sales Tax	Financially Constrained + HOT	TRANSDEF Smart Growth
While most projects will add some visual element, six have been identified as being highly incongruous.	Only one incongruous visual element would be added.	Four incongruous visual elements would be added.	Five incongruous visual elements would be added.	Four incongruous visual elements would be added.	Three incongruous visual elements would be added.
Cultural Resources					
Ground disturbing activities have the potential to disturb, destroy, or significantly affect cultural resources.	Less of a potential to disturb, destroy, or significantly affect cultural resources.	Less of a potential to disturb, destroy, or significantly affect cultural resources.	Less of a potential to disturb, destroy, or significantly affect cultural resources.	Less of a potential to disturb, destroy, or significantly affect cultural resources.	Less of a potential to disturb, destroy, or significantly affect cultural resources.
Urban development supported by Proposed Project has the potential to disturb, destroy, or significantly affect cultural resources.	Less of a potential to disturb, destroy, or significantly affect cultural resources.	Less of a potential to disturb, destroy, or significantly affect cultural resources.	Less of a potential to disturb, destroy, or significantly affect cultural resources.	Less of a potential to disturb, destroy, or significantly affect cultural resources.	Less of a potential to disturb, destroy, or significantly affect cultural resources.

3.2 CEQA Required Conclusions

This chapter assesses the impacts of the proposed Transportation 2030 Plan in several subject areas specifically required by CEQA, including significant irreversible changes, significant unavoidable impacts, cumulative impacts, and impacts found to be not significant. These subject areas are evaluated based on the analysis in Part Two: Settings, Impacts, and Mitigation Measures, of this EIR.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Significant irreversible environmental changes are those irretrievable commitments that consign non-renewable resources to uses that future generations will probably be unable to reverse. Irretrievable commitments of non-renewable resources associated with the transportation improvements in the proposed Transportation 2030 Plan would include:

- Consumption of significant amounts of nonrenewable energy for construction, maintenance, and operation of transportation improvements.
- Use of building materials, fossil fuels, and other resources for construction, maintenance and operation of transportation improvements.
- Conversion of some resource lands, habitat areas, and other undeveloped lands into transportation uses.
- Increased volumes of water runoff from new covered surfaces for highway and transit projects with increased demand on natural and built stormwater collection facilities.
- Visual impacts from transportation improvements, to the extent they obstruct existing views or are in sharp contrast to the existing setting, particularly in rural areas, open space areas, and on scenic highways.

SIGNIFICANT UNAVOIDABLE IMPACTS

Significant unavoidable impacts are those that cannot be mitigated to a level that is less than significant. Part 2 of this EIR identifies the following significant unavoidable impacts:

- Implementation of the proposed Transportation 2030 Plan could convert farmland, including prime agricultural land designated by the State of California, to transportation use.
- Implementation of the Proposed Transportation 2030 Plan could disrupt or displace existing land uses, neighborhoods, and communities in the short term.
- Concurrent implementation of the proposed Transportation 2030 Plan and forecast development of residential and employment land uses would result in expansion of urban areas and changes in land use and the character of neighborhoods and districts in the Bay Area.

- Forecast population and employment growth that would be served by transportation improvements in the Transportation 2030 Plan will result in increased traffic volumes in individual counties in the Bay Area and could, in turn, increase noise levels along some of the travel corridors in those counties where sound suppression treatments have not been implemented.
- The implementation of the Proposed Project is likely to substantially increase the consumption of direct and indirect energy types.
- Seismic events could damage existing and proposed transportation infrastructure through surface rupture, ground shaking, liquefaction, landslides and tsunamis
- Construction of certain improvements in the proposed Transportation 2030 Plan could affect visual resources by adding or expanding transportation facilities in rural or open space areas, blocking views from adjoining areas, blocking or intruding into important vistas along roadways, and changing the scale, character, and quality of designated or eligible Scenic Highways.
- The construction of soundwalls along freeways and arterials, where they are used to reduce noise levels in surrounding residential areas, could significantly alter views from the road reducing visual interest and sense of place while also limiting views and sunlight from adjoining areas.
- Forecast urban development that would be served by transportation improvements in the proposed Transportation 2030 Plan could significantly change the visual character of many areas in the region, especially where development would occur on visually prominent hillsides or in existing rural or open space lands.
- Proposed transportation improvements in the Transportation 2030 Plan could have deleterious impacts on special-status plant and/or wildlife species identified as endangered, candidate, and/or special status by the CDFG or USFWS.
- Forecast urban development that would be served by transportation improvements in the Transportation 2030 Plan, combined with improved regional mobility provided by the Plan, could contribute to the conversion of undeveloped land to urban uses, resulting in the removal or fragmentation of habitat area.

CUMULATIVE IMPACTS

In this EIR, the cumulative impact analysis considers the possible effects of all the projects in the proposed Transportation 2030 Plan together with projected regional growth and the increase in regional travel produced by the Bay Area's increased population and jobs. These cumulative impacts would include:

- PM_{10} and $PM_{2.5}$ emissions are projected to increase substantially over existing conditions (2000) due to projected cumulative regional growth and the attendant increase in automobile travel. (*Significant, potentially mitigable, but strategies not defined*)
- Concurrent implementation of the proposed Transportation 2030 Plan and regional and local land use policies associated with ABAG's Projections would result in expansion of

urban areas and changes in land use and the character of neighborhoods and districts in the Bay Area. *(Significant, unavoidable)*

- Forecast population and employment growth that would be served by transportation improvements in the Transportation 2030 Plan will result in increased traffic volumes in individual counties in the Bay Area and could, in turn, increase noise levels along some of the major travel corridors in those counties. *(Significant, unavoidable)*
- The projected population increase in the Bay Area will result in increased travel on all modes of transportation. This would result in an increased risk of exposure of people and property to the potentially damaging effects of strong seismic shaking, fault rupture, seismically-induced ground failure and slope instability. *(Significant, but mitigable)*
- Forecast urban development that would be served by transportation improvements in the Transportation 2030 Plan, combined with new public and private infrastructure improvements to accommodate future planned urban development, could create degrade regional water quality, reduce groundwater recharge, or result in increased flooding. *(Significant, mitigable)*
- Forecast urban development that would be served by transportation improvements in the proposed Transportation 2030 Plan could significantly change the visual character of many areas in the region, especially where development would occur on visually prominent hillsides or in existing rural or open space lands. *(Significant, unavoidable)*
- Forecast urban development that would be served by transportation improvements in the Transportation 2030 Plan, combined with regional mobility provided by the Plan, could contribute to the conversion of undeveloped land to urban uses, resulting in the removal or fragmentation of habitat area. *(Significant, unavoidable)*
- Forecast urban development that would be served by transportation improvements in the proposed Transportation 2030 Plan could have the potential to disturb, destroy, or significantly affect cultural resources. *(Significant, mitigable)*

These types of impacts are not limited to the Bay Area but are characteristic of any area that is experiencing population and employment growth.

IMPACTS FOUND NOT TO BE SIGNIFICANT

This EIR focuses on potentially significant impacts. CEQA requires that an EIR provide a brief statement indicating why various possible significant impacts were determined to not be significant and were not discussed in detail. For the issue areas addressed in Chapter 2, all potential impacts are identified, regardless of their magnitude. Issue areas determined to not be significant and not addressed in this EIR include the following.

HAZARDOUS MATERIALS

No significant impacts on hazardous materials are expected to occur as a result of the proposed Transportation 2030 Plan. If a project were to be adjacent to a hazardous materials site, a project-specific environmental document would address the impact.

MINERAL RESOURCES

The proposed Transportation 2030 Plan will not affect mineral resources, as no substantive mineral resources have been identified in areas where new transportation improvements will occur.

PUBLIC SERVICES & UTILITIES

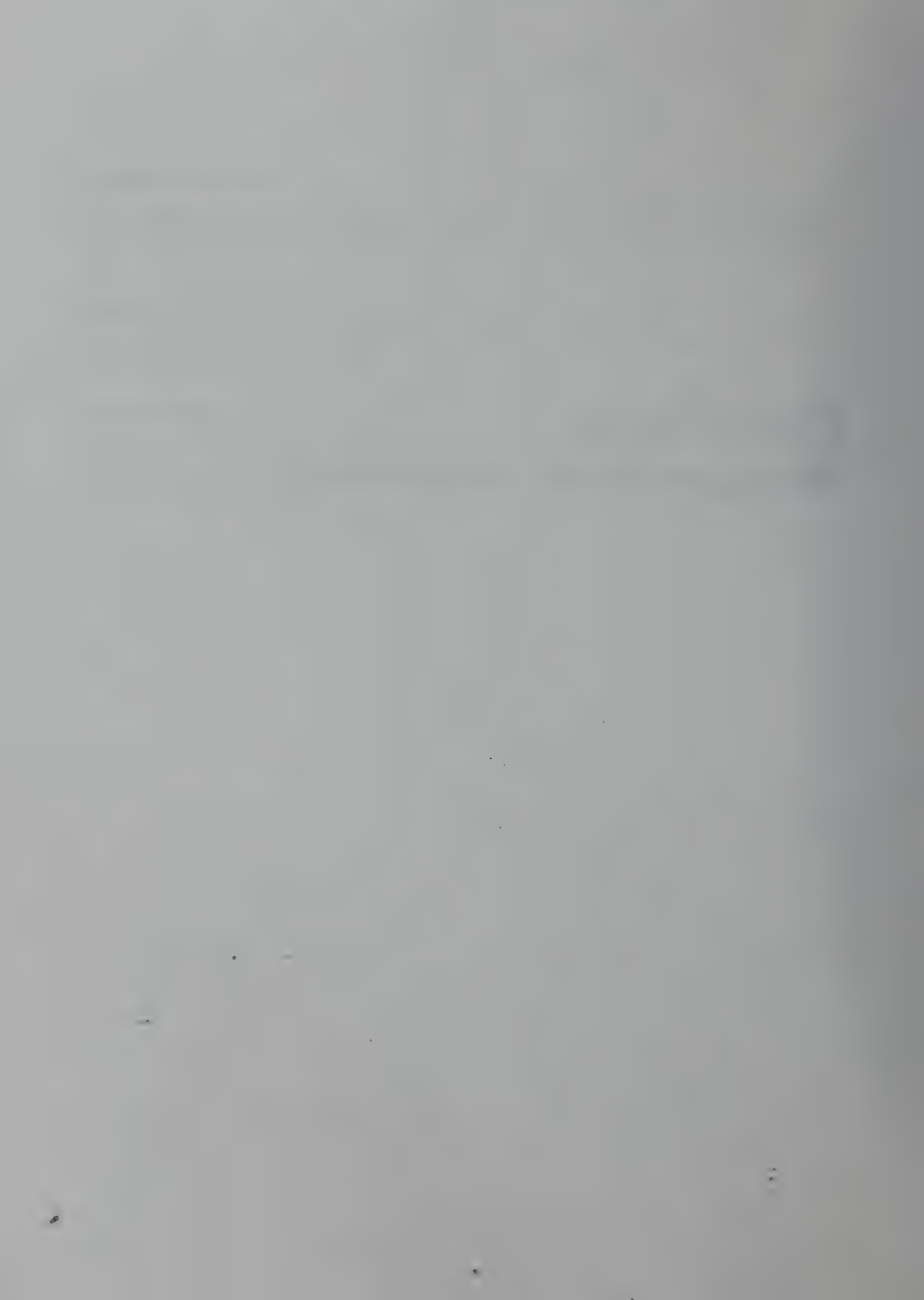
Implementation of the proposed Transportation 2030 Plan will not cause a significant increase in demand for public services or utilities.

RECREATION

No significant adverse effects on recreational uses or facilities are expected. Minor, short-term adverse effects may occur if proposed Transportation 2030 projects are constructed near recreational facilities.

Part Four

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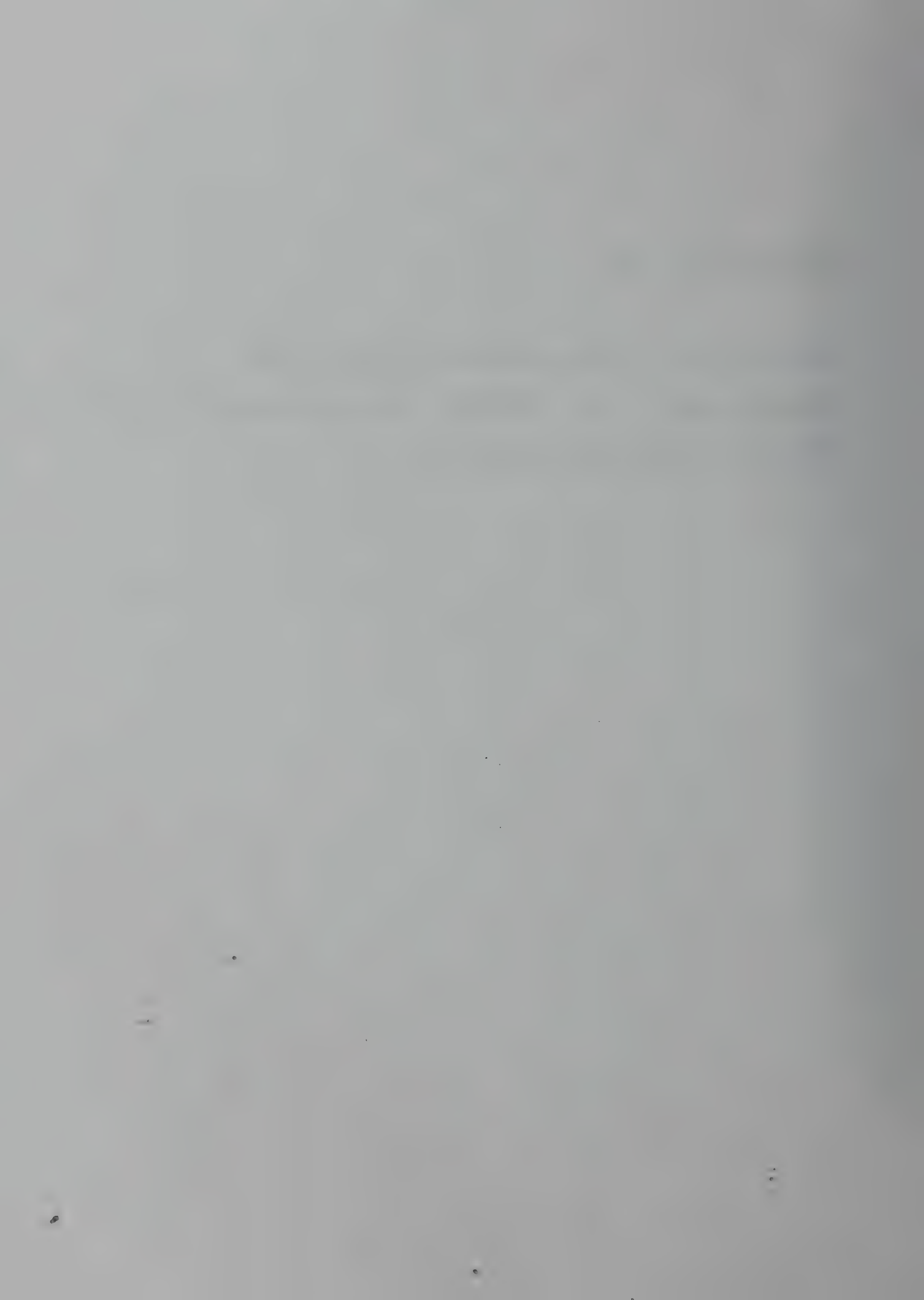
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Appendix A:

Notice of Preparation (NOP) & Summary of NOP Comments and Public Scoping Meeting





**METROPOLITAN
TRANSPORTATION
COMMISSION**

Joseph P. Bort MetroCenter
101 Eighth Street
Oakland, CA 94607-4700
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Notice of Preparation

To: Interested Agencies, Organizations, and Individuals

Subject: Notice of Preparation of a Draft Environmental Impact Report
for the Transportation 2030 Plan

Lead Agency:
Metropolitan Transportation Commission (MTC)
101 Eighth Street
Oakland, CA 94607-4700

MTC Contact Person:
Ashley Nguyen, Project Manager
Phone: (510) 464-7809
Fax: (510) 464-7848
Email: anguyen@mtc.ca.gov

The Metropolitan Transportation Commission (MTC) is the Lead Agency and will prepare a Draft Environmental Impact Report (DEIR) for the project identified below (see attachment). This Notice of Preparation (NOP) is intended to seek comments with specific detail about the scope and content of the environmental information related to your agency's areas of statutory responsibility to be included in the EIR for the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the program/project.

To ensure a full and comprehensive review, MTC will also hold a scoping meeting. All interested organizations and individuals are welcome to participate. The scoping meeting will be held at the Joseph P. Bort MetroCenter located at 101 Eighth Street in Oakland on Wednesday, March 10, 2004 from 6:00 pm to 8:00 pm. A location map and directions are available at www.mtc.ca.gov.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but **not later than 30 days** after receipt of this notice. Please send your response to Ashley Nguyen, Project Manager at the address shown above by March 19, 2004. Remember to include a return address and the name of a contact person in your agency.

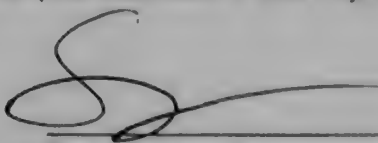
The project description, location and the potential environmental effects are contained in the attached materials. An Initial Study is not required and thus not prepared.

Project Title: Environmental Impact Report for the Transportation 2030 Plan

Project Location: San Francisco Bay Area Region, California
(Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties)

Project Description: Transportation 2030 Plan (See Attachment A: Draft Project Description)

Date: February 16, 2004



Steve Heminger
Executive Director

ATTACHMENT A

DRAFT PROJECT DESCRIPTION

INTRODUCTION

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating and financing agency for the nine-county San Francisco Bay Area (which includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties). Created by the State Legislature in 1970, MTC functions as both the regional transportation planning agency (RTPA)—a state designation—and for federal purposes, as the region's metropolitan planning organization (MPO). As such, MTC is responsible for producing a Regional Transportation Plan (RTP), with a minimum 20-year planning horizon, every three years.

The RTP for the Bay Area, last updated in December 2001 and subsequently amended in November 2002, includes regional transportation issues, goals and objectives, as well as projects, programs, and actions necessary to implement the plan. The RTP must be realistic and be within financial constraints. Any transportation project receiving Federal or State transportation funds must be included in the RTP. The RTP covers a 25-year planning and funding horizon.

The Environmental Impact Report for the *2001 Regional Transportation Plan* was certified by MTC in December 2001. MTC is currently preparing the 2005 update to the RTP, which is referred to as the Transportation 2030 Plan, and the program Environmental Impact Report (EIR) for the Transportation 2030 Plan.

This Notice of Preparation and Draft Project Description is being issued to resource agencies and the public to solicit comments that will assist in the preparation of the Draft EIR, and in the preparation of the RTP itself. As a result of NOP comments and staff analysis, the draft project description and alternatives will likely be refined through the course of developing the RTP.

TRANSPORTATION 2030 PLAN

The contents of a Regional Transportation Plan are outlined in Government Code 65080, and are described below. The Transportation 2030 Plan will cover all appropriate issues associated with each element; however, the document may be organized differently.

- *Policy Element:* reflects the mobility goals, policies and objectives of the region.
- *Action Element:* identifies programs and actions to implement the RTP.
- *Financial Element:* summarizes the cost of implementing the projects in the RTP considering a financially constrained environment.

Policy Element

The Policy Element directly reflects the legislative, planning, financial and institutional history that has shaped the Bay Area region's transportation system. It is intended to frame and drive actions that will affect the direction and nature of transportation and its impact on the Bay Area. This can be accomplished in two ways: reinforcing positive opportunities and trends already in place, or stimulating new opportunities to achieve certain outcomes.

The Policy Element consists of distinct RTP goals. As part of the Transportation 2030 planning effort, MTC proposes new goals that MTC believes are more directed, measurable, and outcome-oriented, and therefore, should better guide transportation policy and investment decisions. The goals approved by the Commission in December 2003 for the Draft Transportation 2030 Plan are:

- A Safe and Well Maintained System
- A Reliable Commute
- Lifeline Mobility
- Livable Communities
- Clean Air
- Efficient Freight Travel

In addition, the Commission also approved a five-point transportation-land use platform to be implemented by MTC to further coordinate transportation and land use planning within the Bay Area and with our neighboring regions. The implementation plan for the platform would be developed in collaboration with the Association of Bay Area Governments (ABAG), congestion management agencies (CMAs), local governments, and other key stakeholders. The platform proposes to:

- Develop a specific policy statement
- Supplement MTC's neighborhood-oriented Transportation for Livable Communities and Housing Incentive Programs (TLC/HIP), with planning incentives that support a broader set of land use objectives, such as specific plans for transit oriented and infill development.
- Condition regional discretionary funding for MTC's Resolution 3434 regional transit expansion program to the provision of supportive land uses in those transit corridors and around those stations.
- Support improved transportation/land use development outside of major transit commute corridors, including the development of a complementary open space plan.
- Better coordinate transportation and land use planning with regions that adjoin the Bay Area, and share the challenges of regional job/housing imbalance and growing interregional commuting demands.

Action Element

The Action Element comprises an investment program of short-and long-term activities that address the Bay Area's transportation issues and needs. Transportation modes such as roads and highways, transit systems, railroads, and aviation, maritime, bicycle and pedestrian use, and their respective local project lead agencies, are addressed in the Action Element. The transportation investments defined in the 2001 RTP will serve as the starting point of discussion about renewed commitments and new investments for the Transportation 2030 Plan. Projects and programs may be redefined, added or deleted from the 2001 RTP as the planning process for the RTP evolves.

Aviation and maritime elements are prepared in separate processes and incorporated by reference into the RTP.

Financial Element

The Financial Element is fundamental to the development and implementation of the RTP. It determines how much money is likely to be available to maintain, operate and improve the Bay Area region's transportation system over a 25-year period. As with past RTPs, MTC will develop a financially constrained element of the RTP, but also proposes that this RTP go beyond the financially constrained emphasis and include a larger set of projects and programs assuming likely sources of new revenues. This "big tent" approach, on a policy basis, provides a more cohesive framework for planning for long-term transportation improvements and analyzing the interrelationships between transportation, air quality, land use, the economy and other policy considerations. On financial grounds, this approach would anticipate new revenues beyond the financially constrained element and provide the opportunity to outline priority investments beyond the limits of existing funding sources. The Financial Element will document the financial assumptions that go into the Transportation 2030 Plan and discuss the financial constraints of each funding source and opportunities for funding the investment program contained in the Action Element.

SCOPE OF ENVIRONMENTAL ANALYSIS

The EIR for the Transportation 2030 Plan will be prepared in compliance with the California Environmental Quality Act (CEQA) of 1970, as amended. In general, the purpose of the EIR will be to analyze the potential environmental effects of the adoption of the RTP; inform decision-makers, other responsible agencies, and members of the public as to the range of environmental impacts of the RTP; recommend a set of measures to mitigate any significant adverse regional impacts; and lastly, analyze several alternatives to the proposed RTP.

Specifically, the EIR for the Transportation 2030 Plan will be a program EIR, which is a first-tier CEQA document designed to consider broad, regional impacts of a program of actions. Therefore, the EIR will focus on the entire set of projects and programs contained in the RTP, rather than on individual projects. This EIR will evaluate potentially significant environmental impacts, and cumulative impacts, and will include mitigation measures to offset potentially significant effects. In addition, this EIR will be the basis for subsequent tiered CEQA documents for site-specific environmental reviews that will be conducted by implementation agencies as projects in the RTP are more clearly defined and more detailed studies prepared. Specific analysis of localized impacts in the vicinity of individual projects is not proposed in this program level EIR.

Under CEQA, key impact categories identified for analysis in this EIR include:

- Transportation
- Air Quality
- Energy
- Geology and Seismicity
- Biological Resources
- Water Resources
- Visual Resources
- Noise
- Cultural Resources
- Population, Housing and Social Environment
- Land Use

Impact categories not specifically addressed in this EIR include recreation, utilities and service systems, public services, and hazardous materials. No significant impacts of regional importance are expected to occur in these areas. These impact areas will be addressed in project-specific environmental documents.

PROJECT ALTERNATIVES

It is important to note that these alternatives will continue to be reviewed and refined before a draft EIR is issued. More precise definitions of the alternatives, or new alternatives, will likely emerge as the EIR scoping and planning process for the RTP evolves. For all project alternatives described below, MTC will use the most recent Smart Growth projections of the Association of Bay Area Governments (ABAG) – *Projections 2003* – in the EIR analysis.

As previously described, the Proposed Project is the Transportation 2030 Plan:

Proposed Project – The Transportation 2030 Plan includes transportation projects and programs that would be funded through uncommitted revenues projected to be available over the 25-year horizon of the Plan (referred to as the financially constrained element of the Plan) plus new revenue sources identified by MTC that could be achieved through either legislative action, or voter mandate (described as the financially unconstrained element of the Plan). The new revenue sources include Regional Measure 2 bridge toll, High Speed Rail Bond, County sales taxes, BART property tax, a new regional gas tax, and increases in the basic federal and state fuel taxes.

The following preliminary alternatives have been identified for analysis in the EIR:

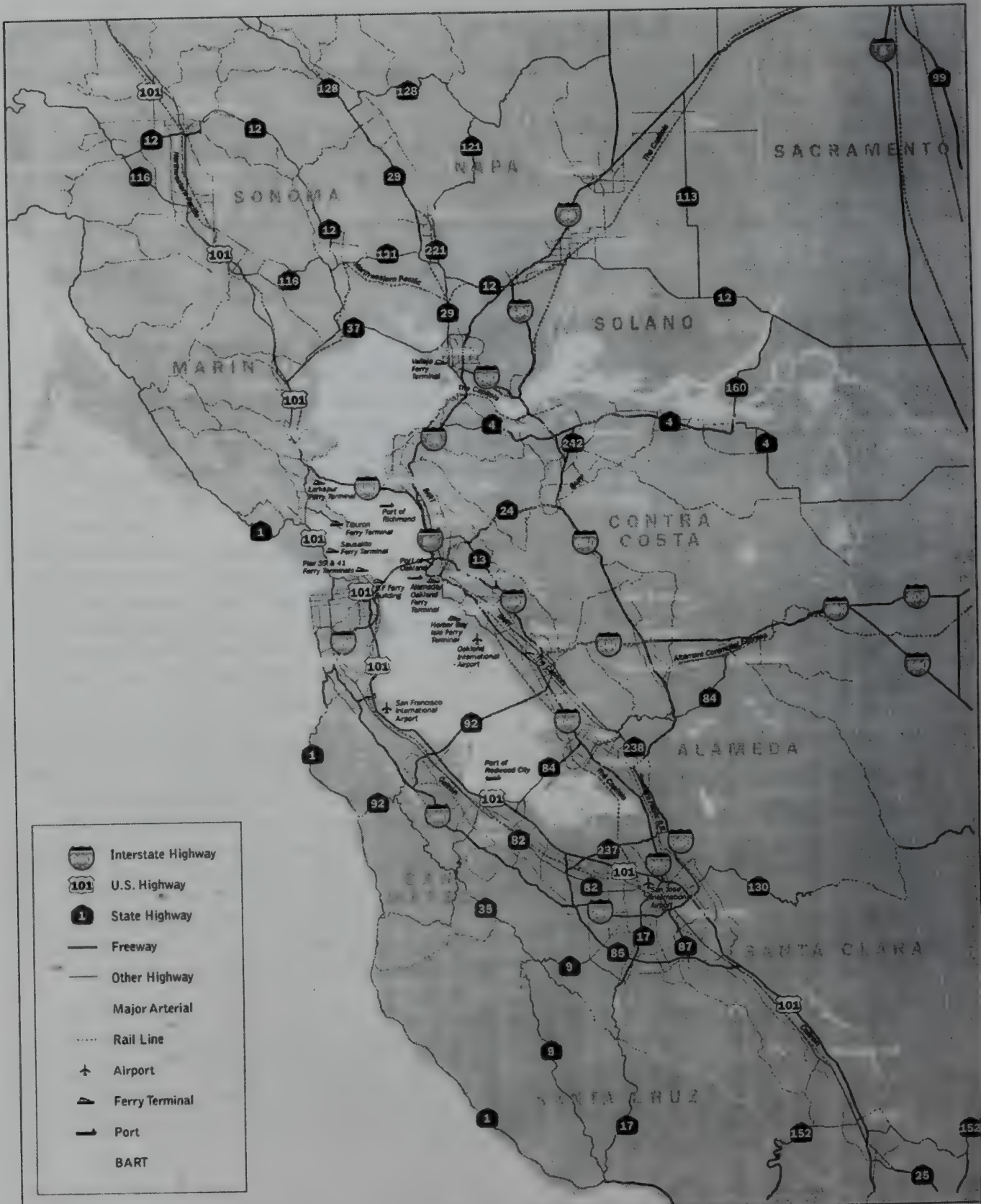
Alternative 1: No Project Alternative – The No Project Alternative, required by CEQA, addresses the effect of not implementing the Transportation 2030 Plan. This includes transportation projects and programs that are in advanced planning stages and slated to go forward since they have full funding commitments. These projects are identified in the federally required Fiscal Year 2005 Transportation Improvement Program (TIP) and include fully funded sales tax projects authorized by voters in five Bay Area counties, including San Francisco, Santa Clara, San Mateo, Alameda, and Contra Costa counties.

Alternative 2: Financially Constrained Project A – This includes only transportation projects and programs that would be funded through uncommitted revenues projected to be available over the 25-year horizon of the RTP (financially constrained element of the Plan), as identified in the Proposed Project. As part of the Phase One Transportation 2030 effort, the Commission approved in December 2003 a set of regional project priorities to be included in the Plan. Under Phase Two, each of the nine county congestion management agencies (CMAs) will solicit public input on local project priorities, and submit the project listings to MTC by late May 2004. Taken together, these projects will make up the financially constrained element of the Plan.

Alternative 3: Financially Constrained Project B – This represents an alternative set of transportation projects and programs that would be funded through uncommitted revenues projected to be available over the 25-year horizon of the RTP (financially constrained element of the Plan). The projects will be determined through public input gathered through the EIR scoping and larger Transportation 2030 Plan effort, including MTC's Transportation 2030 performance evaluation, public meetings, and written comments. The focus of this alternative would be on projects that could further enhance implementation of the Regional Smart Growth Vision (which was adopted by ABAG in March 2002 and later used to inform the development of the policy-based *Projections 2003*). In addition, Caltran's high priority system management components, including extensive ramp metering, as well as enhanced funding levels for key regional operations program, including TransLink®, 511, arterial signal timing, and Freeway Service Patrol/Call Boxes, are assumed under this alternative.

Alternative 4: New Concepts – This alternative involves modifying the set of transportation projects and programs included in the Proposed Project in order to pursue potential new concepts that require new authority for implementation. This alternative plans for a core system of High Occupancy Toll (HOT) lanes. Congestion pricing is assumed on the Bay bridges in terms of \$5 bridge tolls in the peak period and \$3 bridge tolls in the off peak period. Also, parking charges at work sites are assumed in the travel analysis zones in the immediate vicinity of regional rail stations and major express bus corridors.

SAN FRANCISCO BAY REGION



Transportation 2030 Plan EIR
Scoping Meeting and Scoping Meeting Comments Summary
April 16, 2004

Introduction

The Notice of Preparation (NOP) for the Transportation 2030 Plan (T2030) program Environmental Impact Report (EIR) was issued on February 16, 2004, commencing the 30-day comment period required by CEQA. The NOP was mailed to public agencies and members of the public who have expressed interest in the project. Oral comments were accepted at the scoping meeting and written comments on the NOP were accepted until March 19, 2004. This document summarizes both the Scoping Meeting and scoping comments received between February 16, 2004 and March 19, 2004. A total of four oral comments were received during the scoping meeting and 10 written comments were received in response to the NOP.

Scoping Meeting Summary

To ensure a full and comprehensive review, the Metropolitan Transportation Commission (MTC) held a scoping meeting on the EIR. All interested organizations and individuals were welcome to participate. The scoping meeting was held at the Joseph P. Bort MetroCenter located at 101 Eighth Street in Oakland on Wednesday, March 10, 2004 at 6:00 pm.

Ashley Nguyen, MTC EIR Project Manager, called the Scoping Meeting to order at approximately 6:10 p.m. Ms. Nguyen began the meeting by explaining the purpose of the Scoping Meeting and said that it was a forum in which citizens could give their input on the scope and content of the EIR analysis. She said she first wanted to give an overview of the Transportation 2030 Plan, and then walk through the environmental process that MTC is planning to undertake as part of their evaluation. Lastly, she said she wanted to open up the meeting for comments.

Ms. Nguyen gave a brief background of the Transportation 2030 Plan (T-2030) and EIR and the plan update process (second page of handout), which began this past summer with a very heavy public outreach effort. She then described how the Plan includes both a financially constrained component and a financially unconstrained component or "big tent" approach. The Plan has a 25-year horizon, until the year 2030. She explained that T-2030 is the 2005 update of the 2001 Regional Transportation Plan adopted December 2001. The Plan is comprised of three components: a Policy Element – that describes legislative planning; Action Element – in which a set of regional and local projects and programs will be identified to facilitate mobility in the region; and Financial Element – that describes how much money is going to be available over the 25 year planning horizon to fund and operate the kinds of improvements MTC and its transportation partners have planned for the region.

The EIR analysis for the Plan is at the programmatic level and assesses the environmental impacts of the Plan. All of the projects that go into Transportation 2030 will be subject to their own project level CEQA and NEPA analysis. Ms. Nguyen then named the areas of evaluation for the EIR: transportation, air quality, population and housing, land use, energy, geology, noise, and biological, water, visual, and cultural resources. She briefly described the project alternatives, asking the attendees to refer to the handout (back of page 2) for more detail. In addition to the No Project Alternative MTC will look to the Transportation Improvement Program (TIP) to determine which projects that are fully funded within the region will move forward with or without T-2030), alternatives include: Financially Constrained Project Alternative A (consisting of the financially constrained portion of the Proposed Project); Financially Constrained Project Alternative B, which has a different mix of projects than in Alternative A; and the New Concepts Alternative, which aims to focus on different planning concepts.

Ms. Nguyen then turned the meeting over to the EIR Consultant, Vicki Hill, of Dyett & Bhatia.

Ms. Hill first reinforced that the EIR was a program EIR, which would take a broad look at the impacts of the Proposed Project – the regional plan and alternatives. Subsequent site-specific analysis would have to be conducted in order to assess more specific, local impacts. She then went over the EIR Process chart on the last page of the handout. She explained the different milestones in the EIR Process as well as the proposed timeline of events. Next, she referred to the EIR issue areas (on page 3 of the handout) and said the attendees could look at the issue areas and ask her specific questions. There were no questions asked.

The floor was then opened for scoping comments. Comments received during the meeting are summarized in Table I. Comments were received from the following individuals:

1. Sherman Lewis, Sierra Club
2. David Schonbrunn, TRANSDEF
3. Jeff Knolls, Livermore Resident, City of Pleasanton Employee (but not representing the City)
4. Dave Campbell, East Bay Bicycling Coalition

After the commenting period had concluded, Ms. Nguyen briefly described the next steps in the EIR process. She said the 30-day comment period for the NOP will end March 19 and encouraged audience members to submit written comments. She stated that the comments would be summarized prior to the preparation of the EIR (see Table I). MTC plans to release the Draft EIR in September and certify the Final EIR in January (2005). The EIR process is in parallel to the actual T2030 process, so T2030 will also be adopted in January. Ms. Nguyen then asked if anyone had any other questions. Mr. David Schonbrunn wanted to know why, if the Plan is required by law to be financially constrained, that the Proposed Project includes both a financially constrained and financially unconstrained component.

Ms. Nguyen answered that even though the adopted Plan would ultimately have to be financially constrained, that didn't prevent the agency from exploring a wider spectrum of funding possibilities. Mr. Sherman Lewis stated that there are three different types of laws governing the Plan: Transportation Law, CEQA and NEPA. Under Transportation Law, the Plan has to be financially constrained, but under CEQA and NEPA, agencies can still explore other options. Mr. Schonbrunn stated that his group was opposed to a project that was not financially constrained. This comment is noted in the comment summary in Table I.

Ms. Nguyen adjourned the meeting at approximately 7:00 pm.

After the meeting was adjourned, Dave Campbell from the East Bay Bicycling Coalition arrived and asked the following questions: has funding been determined for bicycle programs; will the EIR address how bicycle program funding would be distributed to different jurisdictions; and how will different alternatives affect funding of bicycle programs. Ms. Nguyen said that the Commission has approved \$200 million in funding for a regional pedestrian and bicycle programs in T2030 but because the EIR is a program EIR, it would not deal with the specific details of individual pedestrian or bicycle projects that are included in the larger regional program. Mr. Campbell's comments are noted in Table I. These projects will be subject to their own project-level environmental review as appropriate.

Summary of EIR Scoping Comments

A total of 10 comment letters were received during the public scoping period, which extended from February 16, 2004 to March 19, 2004. Comments were received from the following agencies, organizations, and individuals:

1. Scott Morgan, Senior Planner, Governor's Office of Planning and Research, State Clearinghouse and Planning Unit, February 27, 2004 (no comments)
2. Janis Moore, Planner II, City of San Jose, March 5, 2004 (no comments)
3. Jeffrey M. Smith, AICP, Senior Regional Planner, Intergovernmental Review, Southern California Association of Governments, March 15, 2004 (no comments)
4. Cynthia Eliason, AICP, Planning Manager, City of Alameda, March 18, 2004
5. Laurence N. Wright, PE, Deputy Director, Long Range Planning, Dowling and Associates, for: MCOG and LCAPC, March 19, 2004
6. Terrence A. Valen MPH, Research Associate, Communities for a Better Environment (CBE), March 19, 2004
7. Jose Cisneros, Deputy General Manager, Capital Planning and External Affairs, San Francisco Municipal Railway, March 16, 2004
8. Jean Hart, Deputy Director, Alameda County Congestion Management Agency, March 18, 2004
9. Timothy C. Sable, District Branch Chief, Department of Transportation, March 24, 2004

10. Sandy Hesnard, Aviation Environmental Planner, Department of Transportation,
March 22, 2004

As noted in the above list, only seven of the ten letters contained comments on the EIR scope. The comments are summarized in Table I.

Table 1: Summary of EIR Scoping Comments

Comment
Sierra Club, Sherman Lewis
<ul style="list-style-type: none"> The conventional approach to the EIR is to look at physical construction or expenditures without paying attention to two other aspects of the Plan. The project definition can be broken down into 3 components – (1) Project (Physical construction/program expenditure & associated environmental assessment), (2) Pricing, that is associated with the project demand, and (3) Land Use, within which the project takes place. Consumers make choices based on the land use, price, and the project.
<ul style="list-style-type: none"> Travel demand models are critical for estimating project impacts. However, travel demand does not only result in the project but also caused by pricing and land use.
<ul style="list-style-type: none"> Be careful to avoid conflicts among the goals (e.g., a project that may improve commute could hurt or hinder achievement of livable communities, by removing local businesses in corridor right of way)
<ul style="list-style-type: none"> MTC is making good progress in considering land use. The transportation land use platform is a good idea.
<ul style="list-style-type: none"> Use pricing to mitigate demand (right now demand is assumed); mitigation measures can include actions that affect demand.
<ul style="list-style-type: none"> Transportation model does not factor in some aspects. Can't trust models for everything. The model is excellent in considering route choice and time choices, but is less effective in considering mode choices (e.g., how a highway improvement might encourage traffic away from transit), chain trips (need to look at connected trips rather than individual trips, but this issue is very hard to model), decision not to make a trip (low priority travel), destinations (vehicle fluidity – people choose further destinations when no congestion).
<ul style="list-style-type: none"> Housing location decisions are never considered because the analysis is based on adopted land use plans, when in fact agencies change land use plans based on the transportation network.
<ul style="list-style-type: none"> If you look at environmental impacts of these projects and programs, you need to be sensitive to all these issues that fall into the general heading of induced demand.
<ul style="list-style-type: none"> Projects broadly fall into the area of transit, land use, and pricing. Other projects fall generally into automobile capacity projects and projects that serve dispersed areas. These two broad categories serve vastly different transportation functions and if you mix all these projects and programs together, you will not perceive the difference between these two fundamental kinds of projects.
<ul style="list-style-type: none"> Need to look at the increment of change to 2030 – by only looking at 2030, the impacts get lost.
<ul style="list-style-type: none"> Parallel impacts – lost if looking at issues separately; need to recognize this issue and aggregate the impacts.

Table 1: Summary of EIR Scoping Comments

Comment

TRANSDEF, David Schonbrunn

Alternatives

- Proposed Project cannot be adopted by the MTC because MTC is required by law to adopt a financially constrained plan.
 - The No Build alternative shouldn't include committed projects because they have no funding and cannot be assumed to be implemented. By assuming the committed projects, the increment of change between the proposed Plan and the No Project is negligible. Projects should be included only if they are under construction contracts today.
 - Alternatives should be identified by strategies:
 - "Stapling" together the County Plans;
 - Smart Growth;
 - Pricing;
 - Transportation Control Measures; and
 - In Alternative Four (parking charges) – wasn't clear whether it was referring to parking charges or parking cash out.
- Need to segregate into strategies so that we can see effects of the different types of alternatives.

Impacts

- Impacts should be addressed like they were in the 1994 RTP, every other RTP since has done an inadequate job.
- Look at loss of farmland and key wetlands in particular.
- Air Quality – toxic air contaminants are left out of the issues list; toxic air contaminants are highly localized and should be an Environmental Justice issue (e.g., diesel particulates have cancer risks).
- Green Houses gas emissions should be addressed.
- Should look at refinery emissions in adjacent communities as a result of increased VMT and associated increased fuel consumption.

Mitigation

- CEQA requires mitigation to reduce impacts to non-significant levels.
- There should be a Regional Land Use Plan (first proposed/recommended in 1994 RTP, but language wasn't strong enough to implement).

Table 1: Summary of EIR Scoping Comments

Comment

- Look at growth inducement in Land Use section, especially with regards to loss of farmland and wetlands; look to mitigate loss of wetlands and impacts of regional growth.
- Assess 2.5 PM standards from Feds and see if Bay Area is meeting them – related to increase in VMT; there was a previous unwillingness to mitigate. There is a more rigorous state standard that is currently being developed.
- Use TCMs (Transportation Control Measures) to lower VMT; TRANSDEF wants to see an extensive section in the EIR on this issue.
- Implement Regional Transportation Mitigation Impact Fee as condition for funding – would provide infrastructure.
- Use mitigation levers that are available to the MTC.
- Address construction emissions impacts – largest source of PM; require clean equipment to minimize emissions.
- Mitigations should reduce effects of sprawl – better quality of life, greater accessibility.
- The EIR should do some regional planning, since this document comes closest to being a regional land use plan.

Livermore Resident, City of Pleasanton Employee (but not representing the City), Jeff Knolls

- Plan is combination of county plans.
- Projects affect smaller, local communities when regional decisions are made, which local jurisdictions can't control, so it's necessary to have local agencies address the local traffic impacts of the plan.
- Models are incapable of modeling individual areas (i.e., local roads).
- How does Hwy 580 affect Hwy 680 and vice-versa.
- Some of the projects like the northbound I-680 HOV project, in some models, doesn't appear to create any problems because those models are incapable of modeling the internal constraint of areas like Sunol Grade.
 - But once you punch an additional northbound lane through, where does this traffic go?
 - If you are looking corridor by corridor, do you look at combinations of corridors?
 - How does a project on 680 impact the 580 corridor, for example?
 - There is a major bottle-neck at Hwy 84/580; once this is fixed, where will the traffic flows go?

Table 1: Summary of EIR Scoping Comments

Comment

- Need to assess the general migration of traffic from regional arterials to local streets and changes in noise that result (especially in Livermore); need to require this local assessment as mitigation. In Pleasanton, "follow" studies indicate that up to 60% local street traffic is thru or regional traffic. Local streets are being used more for thru traffic and it is no longer just during peak times that this occurs. With an increase in vehicles, safety risks and noise levels increase.

East Bay Bicycling Coalition, Dave Campbell

- Is the EIR going to address how bicycle program funding would be distributed to different jurisdictions?
- How will different alternatives affect funding of bicycle programs?

City of Alameda, Cynthia Eliason, AICP, Planning Manager

- On page 2, Financial Element, the "big tent" approach should include policies and strategies for minimizing congestion from vehicular trips for major residential developments within the central urban corridor that provide an enhanced job-housing balance and reduce dependency on commuter trips from outlying areas that contribute to added traffic congestion along an extended segment of the freeway system.
- Alternatives 2 and 3 should focus on aggregating individual regional projects on I-880 between I-980 and High Street to evaluate system wide impacts to the neighboring cities from the standpoint of access to/from the freeway for all modes of transportation. The system wide approach would be more efficient in addressing overlapping impacts of individual projects along the I-880 Corridor that have multi-jurisdictional significance.
- Alternatives 2 and 3 should include a reference to ensuring lifeline access.
- Alternative 4, New Concepts, assumed a \$3.00 bridge toll under the congestion pricing for the Bay Bridge. This assumption may need to be revised due to the passage of the Regional Measure 2.

Dowling and Associates, for: MCOG and LCAPC, Laurence N. Wright, PE, Deputy Director, Long Range Planning

- Particularly concerned with jobs-housing imbalance and separation impacts, good movement impacts, and economic development issues.
- The fact that both the Maritime and Aviation Elements are prepared separately from the other elements of the RTP is somewhat puzzling.
- There are also some technical concerns regarding the buffer area used for the travel forecast networks and TAZs.

Table 1: Summary of EIR Scoping Comments

Comment

Communities for a Better Environment (CBE), Terrence A. Valen MPH, Research Associate

- The Environmental Justice Advisory Committee (EJAC) proposed an interim definition of “cumulative impact” to be “the total burden of all emissions and discharges in a geographic area.” However, in communications with MTC staff, cumulative impact analysis in this Draft EIR would only include analysis of the “broad, regional impacts of a program of actions” but these impacts from the RTP plan alone do not constitute the “total burden” to bay area communities.
- The RTP should therefore include the existing stationary sources in localities and in the region. In fact, recent case law requires this analysis (See, e.g., Communities for Better Environment v. California Resources Agency, 103 Cal.App. 4th (2002) 98, 116-123).
- In a region which is currently “out of attainment” with federal ozone standards, and in localities which contain both significant stationary and mobile sources of pollution (Bay View-Hunters Point, Contra Costa and Alameda counties), the possible significance of the cumulative impacts of T2030 and its program of actions should be elevated and would therefore warrant effective mitigation measures.
- Additionally, it will be difficult to separate out the “broad, regional impacts of a program of actions” under T2030 from the more local impacts of individual projects in a full and comprehensive cumulative impacts analysis.
- It is not clear how a full and comprehensive cumulative impact analysis of the “program of actions” of T2030 can exclude project-specific impacts and, as stated above, the stationary sources of emissions and discharges.
- The NOP “Scope of Environmental Analysis” section concludes, “No significant impacts of regional importance are expected to occur in these areas.” This conclusion improperly presupposes the result. For reasons already stated regarding air quality, it seems this conclusion is not consistent with what a full cumulative impact analysis of T2030 might reveal.
- From an Environmental Justice perspective, regulatory agencies have historically ignored the cumulative environmental health burden imposed on low-income communities of color by separating out different source categories and even different operations within a single polluting facility.

San Francisco Municipal Railway, Jose Cisneros, Deputy General Manager, Capital Planning and External Affairs

- In the last RTP, MTC committed to fund 100% of transit capital shortfall. Since that time, there has been significant activity to broaden this commitment to include local roads, and to narrow the commitment to transit projects. The effect of this has been to divert future potential funds away from transit and to roads.
- We would like the alternatives in the DEIR to be structured in such as way that we can examine the environmental effects of funding 100% of the transit capital shortfall as originally committed, compared to the current proposal to fund a lesser portion of the transit

Table 1: Summary of EIR Scoping Comments

Comment
<p>capital shortfall, but to include some amount of the local streets and roads shortfall.</p> <ul style="list-style-type: none"> We would like there to be an alternative considered in the plan that looks at how the region might produce a different mix of projects for investment if MTC were to institute strict criteria based on transit ridership and density. In this scenario, MTC would develop criteria for expansion and replacement projects that prioritized projects with the highest ridership first, and directed transportation investment to locations with the highest residential and employment densities.
<p>Alameda County Congestion Management Agency, Jean Hart, Deputy Director</p> <ul style="list-style-type: none"> The ACCMA requests that the Tier I project recommendations in our Alameda Countywide Transportation Plan (CWTP) be incorporated in the final Transportation 2030 Plan to make the two documents consistent. The CMA is in the process of developing the list of transportation improvements that we would like to be considered in T2030 (approved list will be forwarded May 2004). Consistent with the (attached) approved set of principles, MTC is requested to consider an option/scenario for the Transportation 2030 Plan that would give priority for these principles and assess the environmental impacts of not including these principles as an option to be analyzed in the DEIR.
<p>Department of Transportation, Timothy C. Sable, District Branch Chief</p> <ul style="list-style-type: none"> The Department should be included in the determination process for allocation of Interregional Transportation Improvement Program funds over the 25-year planning horizon.
<p>Department of Transportation, Sandy Hesnard, Aviation Environmental Planner</p> <ul style="list-style-type: none"> The Bay Area has numerous airports and heliports. Strong and effective local, regional, and state policies minimize adverse impacts arising from the encroachment of incompatible land uses around airports, adverse noise impacts on communities near airports, and congestion and/or delays related to airport ground access.
<ul style="list-style-type: none"> According to NOP, an aviation element is prepared in a separate process and incorporated by reference into the RTP. In accordance with CEQA, the DEIR must use the Department's Airport Land Use Planning Handbook (Handbook) in the preparation of environmental planning documents for projects within an airport land use compatibility plan boundaries or if such a plan has not been adopted, within two nautical miles of an airport. The Handbook should be applied to all public use airports. The DEIR should discuss and address regional aviation issues and needs. The DEIR must thoroughly address potential airport-related noise and safety impacts and regional aviation land use planning issues.
<ul style="list-style-type: none"> Enclosed is a copy of the Division of Aeronautics' "Aviation Planning Guidelines for RTPs." As discussed in the Division's RTP Guidelines, the best way to preserve and improve airports and their associated economic and quality-of-life benefits is to take timely

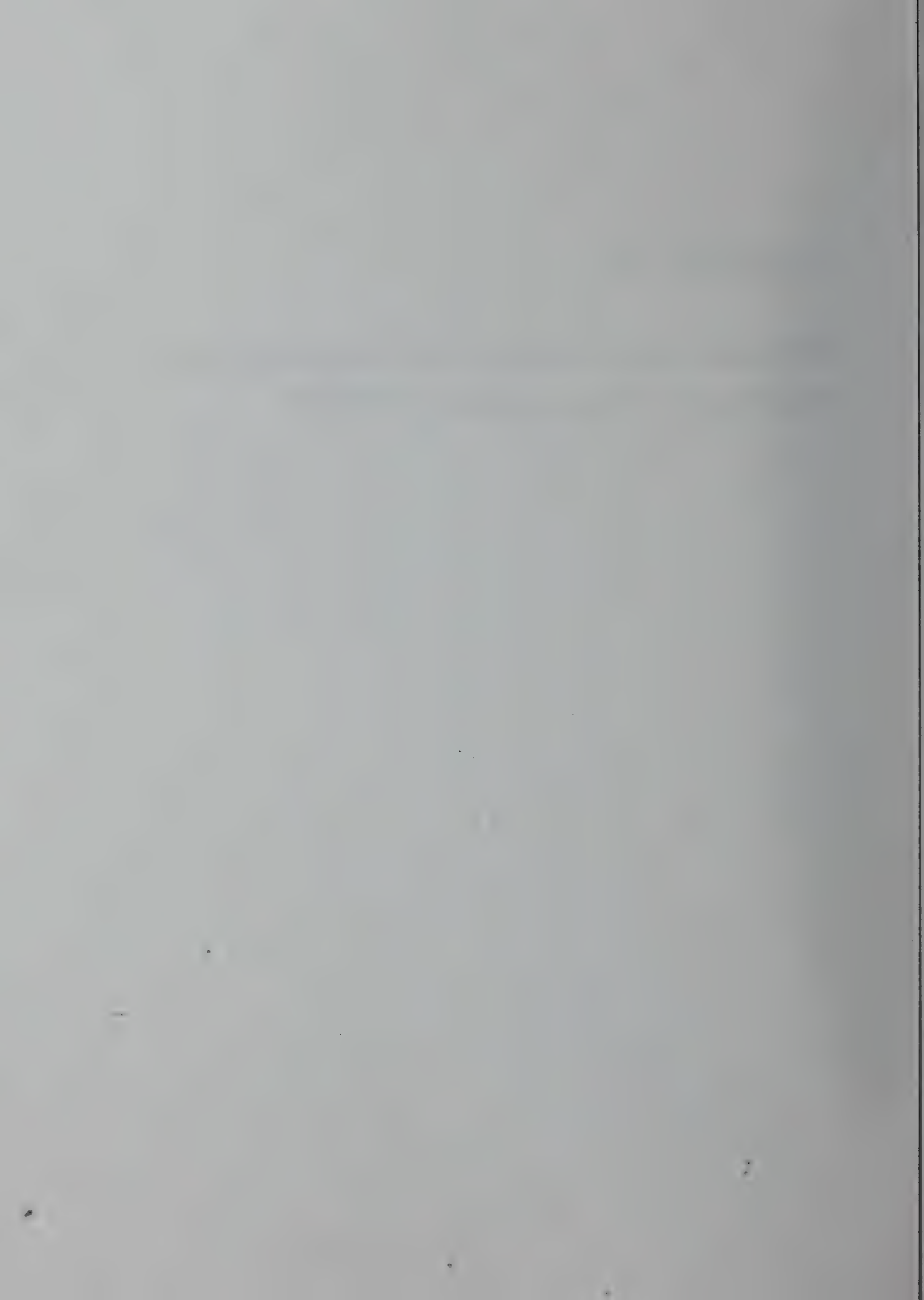
Table 1: Summary of EIR Scoping Comments

Comment

- proactive measures. In addition, these policies help protect people and property both in the air and on the ground. Incompatible land uses around airports often result in public pressure to restrict operations (curfews, aircraft size limits, etc.), and impose noise, and growth controls. Failure to protect the airport may result in permanent closure, thereby reducing or eliminating its benefits.
- Coordinating the RTP with other agencies and land use compatibility plans should help to relieve future land use conflicts between airports and their neighborhoods.

Appendix B:

Written Comments in Response to Notice of Preparation (NOP)





STATE OF CALIFORNIA

Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



Arnold
Schwarzenegger
Governor

Jan Boel
Acting Deputy
Director

Notice of Preparation

February 27, 2004

To: Reviewing Agencies

Re: Transportation 2030 Plan
SCH# 2004022131

Attached for your review and comment is the Notice of Preparation (NOP) for the Transportation 2030 Plan draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

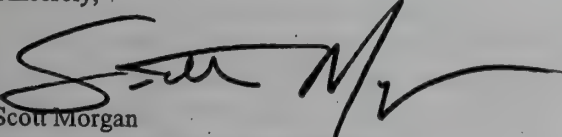
Please direct your comments to:

Ashley Nguyen
Metropolitan Transportation Commission
101 Eighth Street
Oakland, CA 94607

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,



Scott Morgan
Senior Planner, State Clearinghouse

Attachments
cc: Lead Agency

**Document Details Report
State Clearinghouse Data Base**

SCH# 2004022131
Project Title Transportation 2030 Plan
Lead Agency Metropolitan Transportation Commission

Type NOP Notice of Preparation
Description The Transportation 2030 Plan includes transportation projects and programs that would be funded through uncommitted revenues projected to be available over the 25-year horizon of the Plan (referred to as the financially constrained element of the Plan) plus new revenue sources identified by MTC that could be achieved through either legislative action, or voter mandate (described as the financially unconstrained element of the Plan).

Lead Agency Contact

Name Ashley Nguyen
Agency Metropolitan Transportation Commission
Phone 510-464-7809 **Fax**
email
Address 101 Eighth Street
City Oakland **State** CA **Zip** 94607

Project Location

County Alameda, Contra Costa, Marin, Napa, Solano, Sonoma, ...
City
Region
Cross Streets
Parcel No.

Township	Range	Section	Base
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Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Noise; Population/Housing Balance; Water Supply; Wetland/Riparian; Wildlife; Growth Inducing; Landuse

Reviewing Agencies Resources Agency; California Coastal Commission; Office of Historic Preservation; Department of Parks and Recreation; San Francisco Bay Conservation and Development Commission; Department of Fish and Game, Region 3; Native American Heritage Commission; Public Utilities Commission; Caltrans, Division of Aeronautics; Caltrans, Division of Transportation Planning; California Highway Patrol; Caltrans, District 4; Air Resources Board, Transportation Projects; Regional Water Quality Control Board, Region 2

Date Received 02/25/2004 **Start of Review** 02/25/2004 **End of Review** 03/25/2004

Resources Agency

☒ Resources Agency
Nadell Gayou

☐ Dept. of Boating & Waterways
Suzi Betzler

☒ California Coastal Commission
Elizabeth A. Fuchs

☐ Colorado River Board
Gerald R. Zimmerman

☐ Dept. of Conservation
Roseanne Taylor

☐ California Energy Commission
Environmental Office

☐ Dept. of Forestry & Fire Protection
Allen Robertson

☒ Office of Historic Preservation
Hana Kreuzberg

☒ Dept. of Parks & Recreation
B. Noah Tilghman
Environmental Stewardship Section

☐ Reclamation Board
Lori Buford

☐ Santa Monica Mountains Conservancy
Paul Edelman

☒ S.F. Bay Conservation & Dev't Comm.
Steve McAdam

☐ Dept. of Water Resources
Resources Agency
Nadell Gayou

Fish and Game

☐ Dept. of Fish & Game
Scott Flint
Environmental Services Division

☐ Dept. of Fish & Game 1
Donald Koch
Region 1

☐ Dept. of Fish & Game 2
Barry Curtis
Region 2

☒ Dept. of Fish & Game 3
Robert Floerke
Region 3

☐ Dept. of Fish & Game 4
William Laudermilk
Region 4

☐ Dept. of Fish & Game 5
Don Chadwick
Region 5, Habitat Conservation Program

☐ Dept. of Fish & Game 6
Gabriela Gatchel
Region 6, Habitat Conservation Program

☐ Dept. of Fish & Game 6 I/M
Tammy Allen
Region 6, Inyo/Mono, Habitat Conservation Program

☐ Dept. of Fish & Game M
George Isaac
Marine Region

Other Departments

☐ Food & Agriculture
Steve Shaffer
Dept. of Food and Agriculture

☐ Dept. of General Services
Robert Sleppey
Environmental Services Section

☐ Dept. of Health Services
Wayne Hubbard
Dept. of Health/Drinking Water

Independent Commissions, Boards

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Debby Eddy

☐ Office of Emergency Services
John Rowden, Manager

☐ Governor's Office of Planning & Research
State Clearinghouse

☒ Native American Heritage Comm.
Debbie Treadway

☒ Public Utilities Commission
Ken Lewis

☐ State Lands Commission
Jean Sarino

☐ Tahoe Regional Planning Agency (TRPA)
Cherry Jacques

Business, Trans & Housing

☒ Caltrans - Division of Aeronautics
Sandy Hesnard

☒ Caltrans - Planning
Ron Helgeson

☒ California Highway Patrol
John Olejnik
Office of Special Projects

☐ Housing & Community Development
Cathy Creswell
Housing Policy Division

Dept. of Transportation

☐ Dept. of Transportation 1
Mike Eagan
District 1

☐ Dept. of Transportation 2
Don Anderson
District 2

☐ Dept. of Transportation 3
Jeff Pulverman
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☒ Dept. of Transportation 4
Tim Sabie
District 4

☐ Dept. of Transportation 5
David Murrey
District 5

☐ Dept. of Transportation 6
Marc Bimbaum
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☐ Dept. of Transportation 8
Linda Grimes,
District 8

☐ Dept. of Transportation 9
Gayle Rosander
District 9

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Tom Dumas
District 10

☐ Dept. of Transportation 11
Bill Figge
District 11

☐ Dept. of Transportation 12
Bob Joseph
District 12

Cal EPA

Air Resources Board

☐ Airport Projects
Jim Lerner

☒ Transportation Projects
Kurt Karperos

☐ Industrial Projects
Mike Tollstrup

☐ California Integrated Waste Management Board
Sue O'Leary

☐ State Water Resources Control Board
Jim Hockenberry
Division of Financial Assistance

☐ State Water Resources Control Board
Student Intern, 401 Water Quality Certification Unit
Division of Water Quality

☐ State Water Resources Control Board
Steven Herrera
Division of Water Rights

☐ Dept. of Toxic Substances Control
CEQA Tracking Center

Regional Water Quality Control Board (RWQCB)

☐ RWQCB 1
Cathleen Hudson
North Coast Region (1)

☒ RWQCB 2
Environmental Document Coordinator
San Francisco Bay Region (2)

☐ RWQCB 3
Central Coast Region (3)

☐ RWQCB 4
Jonathan Bishop
Los Angeles Region (4)

☐ RWQCB 5S
Central Valley Region (5)

☐ RWQCB 5F
Central Valley Region (5)
Fresno Branch Office

☐ RWQCB 5R
Central Valley Region (5)
Redding Branch Office

☐ RWQCB 6
Lahontan Region (6)

☐ RWQCB 6V
Lahontan Region (6)
Victorville Branch Office

☐ RWQCB 7
Colorado River Basin Region (7)

☐ RWQCB 8
Santa Ana Region (8)

☐ RWQCB 9
San Diego Region (9)

☐ Other

Last Updated on 01/12/04

March 5, 2004

Ashley Nguyen, Project Manager
Metropolitan Transportation Commission
101 Eighth Street
Oakland, CA 94607-4700

**SUBJECT: Notice of Preparation of a Draft Environmental Impact Report for the
Transportation 2030 Plan (File No. OA04-02-004)**

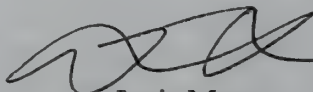
Dear Ms. Nguyen:

The City of San Jose (CSJ) appreciates the opportunity to review and comment on the Metropolitan Transportation Commission's Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for the Transportation 2030 Plan covering the nine-county San Francisco Bay Area. The CSJ considers this to be a very important project for Bay Area residents and workers, which is expected to improve traffic conditions in the region.

While we have no specific comments at this time, we look forward to reviewing the Draft EIR when it becomes available for review. Please provide CSJ with two copies of the complete Draft EIR, including all technical reports, traffic analysis, etc. that may be contained in one or more volumes of the document. Please send the Draft EIR directly to my attention, as I will be coordinating with other CSJ departments in the review of the Draft EIR.

Thank you again for the opportunity to review and comment on the NOP for this important project. If you need to contact me, you may reach me at (408) 277-4576.

Sincerely,



Janis Moore
Planner II

SOUTHERN CALIFORNIA



**ASSOCIATION of
GOVERNMENTS**

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ucamonga • Edward Burgnon, Town of Apple
alley • Lawrence Dale, Barstow • Lee Ann Garcia,
rand Terrace • Susan Longville, San Bernardino •
ary Ovit, Ontario • Deborah Robertson, Rialto

Ventura County: Judy Mikels, Ventura County •
lien Becerra, Simi Valley • Carl Morehouse, San
uenaventura • Toni Young, Port Hueneme

Orange County Transportation Authority:
Charles Smith, Orange County

Riverside County Transportation Commission:
Robin Lowe, Hemet

Ventura County Transportation Commission: Bill
Javis, Simi Valley

March 15, 2004

Ms. Ashley Nguyen
Project Manager
Metropolitan Transportation Commission (MTC)
101 Eighth Street
Oakland, CA 94607-4700

**RE: Comments on the Notice of Preparation for a Draft Environmental Impact
Report for the Transportation 2030 Plan – SCAG No. I 20040088**

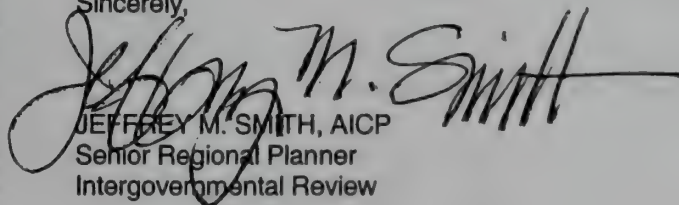
Dear Ms. Nguyen.

Thank you for submitting the **Notice of Preparation for a Draft Environmental Impact Report for the Transportation 2030 Plan** to SCAG for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects, and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the **Notice of Preparation** and have no comments at this time. However, SCAG would like to receive a copy of the Draft EIR and the Draft Plan for the Transportation 2030 Plan to review and provide comments when the document is completed and available for public review.

Please provide a minimum of 45 days for SCAG to review the Draft EIR when this document is available. If you should have any questions, please contact me at (213) 236-1867. Thank you.

Sincerely,


JEFFREY M. SMITH, AICP
Senior Regional Planner
Intergovernmental Review



City of Alameda • California

March 18, 2004

Ashley Nguyen, Project Manager
Metropolitan Transportation Commission
101 Eighth Street
Oakland, CA 94607-4700

**RE: Notice of Preparation of a Draft Environmental Impact Report (EIR) for the
Transportation 2030 Plan**

Dear Ms. Nguyen:

Thank you for the opportunity to comment on the scope of the proposed Transportation 2030 Plan EIR. The City of Alameda requests that the Draft EIR include the following information and analysis:

1. On Page 2, Financial Element, the "big tent" approach should include policies and strategies for minimizing congestion from vehicular trips for major residential developments within the central urban corridor that provide an enhanced job-housing balance and reduce dependency on commuter trips from outlying areas that contribute to added traffic congestion along an extended segment of the freeway system.
2. Alternatives 2 and 3 should focus on aggregating individual regional projects on I-880 between I-980 and High Street to evaluate system wide impacts to the neighboring cities from the standpoint of access to/from the freeway for all modes of transportation. The system wide approach would be more efficient in addressing overlapping impacts of individual projects along the I-880 Corridor that have multi-jurisdictional significance.
3. Alternatives 2 and 3 should include a reference to ensuring lifeline access.
4. Alternative 4, New Concepts, assumed a \$3.00 bridge toll under the congestion pricing for the Bay Bridge. This assumption may need to be revised due to the passage of the Regional Measure 2.

Thank you again for the opportunity to provide comments. Feel free to call me at 510-747-6880 if I can be of any assistance or if you have any questions.

Sincerely,

A handwritten signature in cursive script, reading "Cynthia Eliason".

Cynthia Eliason, AICP
Planning Manager

xc: Supervising Civil Engineer, Land Development & Transportation

G:\PLANNING\ENVIRREV\CORRES\2030 Plan NOP.doc

Planning and Building Department

2263 Santa Clara Avenue, Room 190
Alameda, CA 94501

510 748.4530 • Fax 510 748.4593 • TDD 510 522.7538

Ashley Nguyen - Comments re: NOP for 2030 RTP

From: "Laurence N Wright" <lnwright@saber.net>
To: <anguyen@mtc.ca.gov>
Date: 3/19/2004 1:28 PM
Subject: Comments re: NOP for 2030 RTP

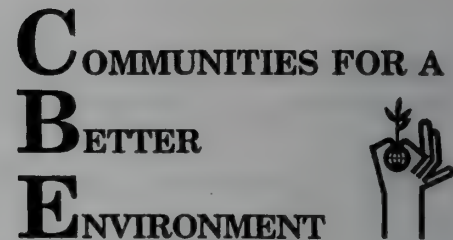
Ashley,

I have been unable to develop a full set of comments, but will do so at a later date. We have been fully occupied with the completion of the Wine Country Inter-Regional Partnership work program and making constant adjustments to our RTP. As a representative of both the Mendocino Council of Governments (MCOG) and the Lake County Area Planning Council (LCAPC), we are very interested in pursuing the "consultation process" identified in the revised Federal guidelines for MPO planning activities. We do not anticipate that our comments would require any changes or additional work for this RTP update effort. We do have several suggestions for the next up-date cycle and the monitoring activities associated with this RTP. We will particularly be concerned with jobs-housing imbalance and separation impacts, good movement impacts, and economic development issues. The fact that both the Maritime and Aviation Elements are prepared separately from the other elements of the RTP is somewhat puzzling. There are also some technical concerns regarding the buffer area used for the travel forecast networks and TAZs. I am aware that today is the deadline for comments on the NOP, but will be able to fully develop these areas until sometime after April first. I hope that this will provide a "foot in the door" for responding a little later.

Sincerely,

Laurence N. Wright, PE
Deputy Director, Long Range Planning
DOW and Associates, for:
MCOG and LCAPC

March 19, 2004



To: Ashley Nguyen, Project Manager
Metropolitan Transportation Commission (MTC)
101 Eighth Street
Oakland, CA 94607-4700

Re: Comments on the Draft Environmental Impact Report (EIR) for the Transportation 2030 Plan (T2030)

In the "Notice of Preparation" of the Draft EIR for the T2030 Plan, the "Scope of Environmental Analysis" states, "This EIR will evaluate potentially significant environmental impacts, and cumulative impacts, and will include mitigation measures to offset potentially significant effects." These comments on the Draft EIR for T2030 focus on the definition and implementation of a "cumulative impact analysis" proposed by MTC staff and their environmental consultants

In a set of recommendations recently approved by the Environmental Justice Advisory Committee (EJAC) to the Secretary of the California EPA, the EJAC proposed an interim definition of "cumulative impact" to be "the total burden of all emissions and discharges in a geographic area." However, in communications with MTC staff, cumulative impact analysis in this Draft EIR would only include analysis of the "broad, regional impacts of a program of actions" included in T2030, as was done in the 2001 EIR on the last RTP. MTC's past cumulative impact analysis looked at multiple impact categories (transportation, air quality, energy, land use, etc.), but these impacts from the RTP plan alone do not constitute the "total burden" to bay area communities.

While it is good to look at the "broad" impacts of the plan's program of actions, it is also necessary to put these impacts within the context of the historical and "total burden of all emissions and discharges." It would therefore include the existing stationary sources in localities and in the region. In fact, recent caselaw requires this analysis. (See, e.g., *Communities for Better Environment v. California Resources Agency*, 103 Cal.App.4th (2002) 98, 116-123).

This would add a cumulative and possibly synergistic impact to the potential transportation, air quality, energy and other impacts of T2030. In a region which is currently "out of attainment" with federal ozone standards, and in localities which contain both significant stationary and mobile sources of pollution (Bay View-Hunters Point, Contra Costa and Alameda counties), the possible significance of the cumulative impacts of T2030 and its program of actions should be elevated and would therefore warrant effective mitigation measures.

Additionally, it will be difficult to separate out the "broad, regional impacts of a program of actions" under T2030 from the more local impacts of individual projects in a full and comprehensive cumulative impacts analysis. The "Scope of Environmental Analysis" clearly states, "Specific analysis of localized impacts in the vicinity of individual projects is not proposed in this program level EIR." This Draft "program" EIR is described as a "first-tier CEQA document" which "will be the basis for subsequent tiered CEQA documents for site-specific environmental reviews...", however, it is not clear how a full and comprehensive cumulative impact analysis of the "program of actions" of T2030 can exclude project-specific impacts and, as stated above, the stationary sources of emissions and discharges.

After listing the different impact categories that will be addressed by the EIR, the "Scope of Environmental Analysis" section concludes, "No significant impacts of regional importance are expected to occur in these areas." This conclusion improperly presupposes the result. The draft EIR should not be prepared to reach a certain result. With mobile source emissions as a large source category for air pollution in the bay area and with the significant stationary sources of air pollution together putting the bay area out of attainment with federal ozone standards, it seems

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that this conclusion is not consistent with what a full cumulative impact analysis of T2030 might reveal.

From an Environmental Justice perspective, regulatory agencies have historically ignored the cumulative environmental health burden imposed on low-income communities of color by separating out different source categories and even different operations within a single polluting facility. While it is encouraging that the MTC will look at cumulative impacts in its EIR on the program of actions under T2030, it is necessary to consider the "the total burden of all emissions and discharges" in specific localities and in the entire bay area.

I look forward to your response to these comments.

Sincerely,

Terrence Valen

Terrence A. Valen MPH

Research Associate

Communities for a Better Environment (CBE)



SAN FRANCISCO MUNICIPAL RAILWAY

1145 MARKET STREET, 3RD FLOOR, SAN FRANCISCO, CA 94103-1547
(415) 934-3954 FAX (415) 934-3930



March 16, 2004

Doug Kimsey, Manager of Planning
Metropolitan Transportation Commission
101 Eighth Street
Oakland, CA 94607

Dear Mr. Kimsey:

Thank you for the opportunity to provide comments on the Notice of Preparation for the Draft Environmental Impact Report for the Transportation 2030 Plan.

We have two issues that we would like to see addressed in the DEIR:

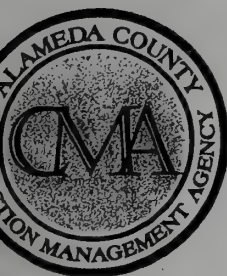
- 1) In the last RTP, MTC committed to fund 100% of the transit capital shortfall. Since that time, there has been significant activity to broaden this commitment to include local streets and roads, and to narrow the commitment to transit projects. The effect of this has been to divert future potential funds away from transit and to streets and roads. We would like the alternatives in the DEIR to be structured in such a way that we can examine the environmental effects of funding 100 % of the transit capital shortfall as originally committed, compared to the current proposal to fund a lesser portion of the transit capital shortfall, but to include some amount of the local streets and roads shortfall.
- 2) We would like there to be an alternative considered in the plan that looks at how the region might produce a different mix of projects for investment if MTC were to institute strict criteria based on transit ridership and density. In this scenario, MTC would develop criteria for expansion and replacement projects that prioritized projects with the highest ridership first, and directed transportation investment to locations with the highest residential and employment densities.

Please call Duncan Watry at (415) 934-3937 if you have any questions.

Sincerely,

José Cisneros
Deputy General Manager
Capital Planning and External Affairs

cc: Michael T. Burns
Duncan Watry
Margurite Fuller
Ashley Nguyen, MTC ✓
Bob Bates, MTC



ALAMEDA COUNTY
CONGESTION MANAGEMENT AGENCY

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E-MAIL: mail@accma.ca.gov • WEB SITE: accma.ca.gov

March 18, 2004

Ms. Ashley Nguyen
Metropolitan Transportation Commission
101 Eighth Street
Oakland, CA 94607-4756

SUBJECT: Comments on Notice of Preparation of a Draft Environmental Impact
Report for the Transportation 2030 Plan

Dear Ms. Nguyen:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) for a Draft Environmental Impact Report (DEIR) on the Transportation 2030 Plan (T2030). The Alameda County CMA (ACCMA) looks forward to reviewing and commenting on the Transportation 2030 Plan as well as the DEIR once the documents are formally released.

The ACCMA respectfully submits the following comments:

- The ACCMA requests that the Tier 1 project recommendations in our Alameda Countywide Transportation Plan (CWTP) be incorporated in the final Transportation 2030 Plan. The inclusion of our Tier 1 projects in the Transportation 2030 Plan will make the two planning documents consistent. The CMA is in the process of developing the list of transportation improvements that we would like to be considered in T2030. The approved list will be forwarded to you in May 2004.
- The ACCMA Board, the Bay Area CMA Association & the Bay Area Partnership adopted the attached set of principles relating to adoption of a programming policy as a crisis management proposal in view of the fiscal crisis currently faced by the State of California. The key goal of the above proposal is to provide flexibility and balance in the upcoming programming cycles during this time of fiscal crisis.

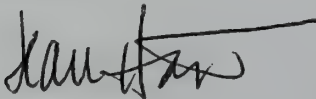
Consistent with the approved set of principles, MTC is requested to consider an option/scenario for the Transportation 2030 Plan that would give priority for

Ms. Ashley Nguyen
March 18, 2004
Page 2

these principles. ACCMA requests that the environmental impacts of not including these principles as an option be analyzed in the DEIR.

Again, thank you for the opportunity to comment on the NOP. Please do not hesitate to contact me at 510/836-2560 if you require additional information.

Regards,

A handwritten signature in black ink, appearing to read 'Jean Hart', with a long horizontal stroke extending to the right.

Jean Hart
Deputy Director

cc: Saravana Suthanthira, Associate Transportation Planner
file: CMP/Environmental Review Opinions - Responses - 2004

Proposed Principles for Allocation of STP/CMAQ Funds
A Crisis Management Proposal – “Sharing the Pain”
Bay Area Partnership
Adopted January 26, 2004

Preamble

The fiscal crisis currently facing the State of California has had disastrous consequences for the delivery of transportation projects and services. The state backlog of projects awaiting CTC approval but lacking funding reached \$600 million at the end of 2003, and is projected to increase to \$1.6 billion by June 2004. These amounts are part of a total of approximately \$2.5 billion in projects that were delayed or deferred by the California Transportation Commission in Spring 2003 due to a lack of projected funding.

At the same time, the promise of the TCRP Program for \$5 billion in new capital investment, and of Proposition 42 for an on-going investment of approximately \$1.25 billion annually in transportation – for local streets and roads, transit, and through the State Transportation Improvement Program (STIP) – is not being fulfilled, nor is it likely to be any time soon.

In this crisis mode, every transportation agency, including the MTC, needs to take a careful look at its priorities, particularly with respect to how new and uncommitted funding is used. Specifically, we suggest that the programming of federal surface transportation program (STP) and congestion mitigation/air quality program (CMAQ) funds that would flow to the region from an extension or renewal of TEA21 need to be considered in the context of the current fiscal crisis. This fiscal disaster is likely to last for at least the next two to three years, and will wreak havoc with planned improvements without positive action.

The key goals of this proposal are to stimulate the economy and to provide flexibility and balance in the upcoming programming cycles during this time of fiscal crisis.

Proposed Process and Principles for Allocation of STP/CMAQ Funds in the Next Few Years

Process. Prior to initiating a call for projects for any program funded by STP or CMAQ, MTC and its regional partners would assess the impacts of the State budget on transportation and adjust programming policies accordingly. No call for projects would be issued until the full impacts of the annual State budget are assessed and reported to the Commission and until programming policy has been adopted by the Commission, after input from the regional partners. Programming policy would be consistent with the principles outlined below.

Principles. These principles are proposed for allocation of STP/CMAQ funds within the region in the next two to three years. The following three categories would take priority over making new commitments, and the balance among these priorities would be agreed upon among the affected partners and MTC as part of developing programming policies:

- **Protection of the Existing System.** Preserving and protecting the existing system, within the policy levels established by MTC of Score 16 for transit and MTS systems investment for local streets and roads.
- **Transportation Control Measures.** TCMs contained in the Clean Air Plan.
- **Funds for Critical Committed Projects and Programs.** Funds for critical committed capital projects in the STIP and possibly the TCRP that will otherwise be delayed for several years and for ongoing programs with existing commitments to projects or under contract. Equity across the region, and balance among the projects chosen in this category would be necessary.

DEPARTMENT OF TRANSPORTATION

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March 24, 2004

ALAGEN199
SCH 2004022131

Ms. Ashley Nguyen
Metropolitan Transportation Commission
101 Eighth Street
Oakland, CA 94607

Dear Ms. Nguyen:

TRANSPORTATION 2030 PLAN – NOTICE OF PREPARATION

Thank you for including the California Department of Transportation (Department) in the early stages of the environmental review process for the proposed Transportation 2030 Plan. The following comment is based on the Notice of Preparation:

Since the Department and the California Transportation Commission are responsible for programming Interregional Transportation Improvement Program funds over the 25-year planning horizon, the Department should be included in the determination process for allocating these funds. Please coordinate with Erik Alm, Chief of the Partnership Transportation Studies Branch, at your earliest convenience; he can be reached at (510) 286-6053.

Please feel free to call or email Patricia Maurice of my staff at (510) 622-1644 or patricia_maurice@dot.ca.gov with any questions regarding this letter.

Sincerely,

TIMOTHY C. SABLE
District Branch Chief
IGR/CEQA

c: Scott Morgan, State Clearinghouse

DEPARTMENT OF TRANSPORTATION

DIVISION OF AERONAUTICS – M.S.#40

1120 N STREET

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March 22, 2004

Ms. Ashley Nguyen
Metropolitan Transportation Commission
101 Eighth Street
Oakland, CA 94607

Dear Ms. Nguyen:

Re: *Metropolitan Transportation Commission's (MTC) Notice of Preparation (NOP)
of a Draft Environmental Impact Report (DEIR) for the Transportation 2030 Plan;
SCH# 2004022131*

The California Department of Transportation, Division of Aeronautics (Department), reviewed the above-referenced document with respect to airport-related noise and safety impacts and regional aviation land use planning issues pursuant to the California Environmental Quality Act (CEQA). The following comments are offered for your consideration.

1. The proposal is to update to the Bay Area Regional Transportation Plan (RTP). The Metropolitan Transportation Commission (MTC), functioning as both a regional transportation planning agency (RTPA) and a metropolitan planning organization (MPO), is responsible for producing the RTP, with a minimum 20-year planning horizon, every three years. The RTP for the Bay Area, last update in December 2001 and subsequently amended in November 2002, includes regional transportation issues, goals and objectives, as well as projects, programs, and actions necessary to implement the plan.
2. Within the nine-county MTC region, which consists of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma counties, are numerous airports and heliports. Aviation plays a significant role in California's transportation system. Strong and effective local, regional, and state policies minimize adverse impacts arising from the encroachment of incompatible land uses around airports, adverse noise impacts on communities near airports, and congestion and/or delays related to airport ground access.
3. According to the NOP, an aviation element is prepared in a separate process and incorporated by reference into the RTP. With respect to the DEIR, in accordance with CEQA, Public Resources Code 21096, the Department's Airport Land Use Planning Handbook (Handbook) must be utilized as a resource in the preparation of environmental documents for projects within an airport land use compatibility plan boundaries or if such a plan has not been adopted, within two nautical miles of an airport. The Handbook is a resource that should be applied to all public use airports. The Handbook is published on-line at <http://www.dot.ca.gov/hq/planning/aeronaut/htmlfile/landuse.php>. The DEIR should discuss and address regional aviation issues and needs. The DEIR must thoroughly address potential airport-related noise and safety impacts and regional aviation land use planning issues.

Ms. Ashley Nguyen

March 22, 2004

Page 2

4. Enclosed is a copy of the Division of Aeronautics' "Aviation Planning Guidelines for Regional Transportation Plans (RTP)." For questions concerning these guidelines, please contact the Division's liaison for MTC, Ms. Leslie Snow at (916) 654-4380. We also ask that you provide us with a copy of the draft "Aviation Element" when available.
5. As discussed in the Division's RTP Guidelines, the best way to preserve and improve airports and their associated economic and quality-of-life benefits is to take timely proactive measures. In addition, these policies help protect people and property both in the air and on the ground. Incompatible land uses around airports often result in public pressure to restrict operations (curfews, aircraft size limits, etc.), and impose noise, and growth controls. Failure to protect the airport may result in permanent closure, thereby reducing or eliminating its benefits.
6. We strongly feel that the protection of airports from incompatible land use encroachment is vital to California's economic future. Airports are an economic asset that must be protected through effective airport land use compatibility planning and awareness. Although the need for compatible and safe land uses near airports in California is both a local and a state issue, it is also a regional issue. Airport staff, Airport Land Use Commissions (ALUC) and airport land use compatibility plans are key to protecting an airport and the people residing and working in the vicinity of an airport. Coordinating the RTP with these other agencies should help to relieve future conflicts between airports and their neighbors. Achieve foster

These comments reflect the areas of concern to the Department's Division of Aeronautics with respect to airport-related noise and safety impacts and regional airport land use planning issues. We advise you to contact our district office in Oakland concerning surface transportation issues.

Thank you for the opportunity to review and comment on this proposal. If you have any questions, please call me at (916) 654-5314.

Sincerely,



SANDY HESNARD

Aviation Environmental Planner

c: State Clearinghouse

Aviation Planning Guidance for Regional Transportation Plans (RTP)

*Prepared by: California Department of Transportation
Division of Aeronautics
December 2003*

Aviation plays a significant role in California's transportation system. This role includes the movement of people and goods within and beyond our state's network of over 250 airports. Aviation contributes nearly 9% of both total state employment (1.7 million jobs) and total state output (\$110.7 billion) annually. These benefits were identified in a recent study, "Aviation in California: Benefits to Our Economy and Way of Life," prepared for the Division of Aeronautics which is available at <http://www.dot.ca.gov/aeronautics>. Among other things, aviation improves mobility, generates tax revenue, saves lives through emergency response, medical and fire fighting services, annually transports air cargo valued at over \$170 billion and generates over \$14 billion in tourist dollars, which in turn improves our economy and quality-of-life.

Aviation should be addressed in RTPs not only because of the above roles, but it is also required under state and federal law. According to CA Government Code 65080(a), "Each transportation planning agency...shall prepare and adopt a regional transportation plan directed at achieving a coordinated and balanced regional transportation system, including...*aviation facilities and services*." Title 23 Part 450, Section 316 of the U.S. Code of Federal Regulations, requires inclusion of access to airports is a factor that "shall be explicitly considered, analyzed as appropriate, and reflected in the planning process products." The California Transportation Commission's (CTC) 1999 RTP Guidelines prescribe the aviation mode however the extent that aviation is addressed in a RTP varies depending on each regional RTPA/MPO's interpretation. The Division of Aeronautics created the following guidelines to help transportation planners address aviation more comprehensively in the upcoming cycle of regional transportation plans and to increase understanding of aviation planning in general.

Prior to developing the aviation portion of the RTP, obtain some aviation background and ideas about transportation problems, needs and issues, by **reviewing pertinent plans**. The following plans should be reviewed for consistency, planned developments, and land use and noise compatibility:

- ❖ *Airport Master Plans*--the long-term airport planning document to support modernization of existing airports and creation of new airports, regardless of size, complexity, or role.
- ❖ *Aviation System Plans*--a composite of plans including: 1) California Aviation System Plan Elements (Policies, Inventory/Forecasts, System Requirements, and Capital Improvement Plan); 2) the aviation element of Regional Transportation Plans (RTPs); 3) Interregional Aviation System Plans; and 4) other aviation-related studies and reports.
- ❖ *Airport Land Use Compatibility Plans*--plans that "provide for the orderly growth of each public airport and area surrounding the airport within the jurisdiction of the commission" and "safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general."
- ❖ *Local, regional and state plans* (including General Plans)
- ❖ *Regional Transportation Plans* of adjoining regions for aviation-related issues, possible conflicts and potential mutual solutions.

Early public involvement is crucial to any good transportation plan. Contact airport managers and Airport Land Use Commissioners (if applicable) and invite these key representatives to participate in RTP planning meetings.

The best way to preserve and improve airports and their associated economic and quality-of-life benefits is to take timely proactive measures. Strong and effective local, regional, and state policies minimize adverse impacts arising from the encroachment of incompatible land uses around airports, adverse noise impacts on communities near airports, and congestion and/or delays related to airport ground access. In addition, these policies help protect people and property both in the air and on the ground. Incompatible land uses around airports often result in public pressure to restrict operations (curfews, aircraft size limits,

etc.), and impose noise, and growth controls. Failure to protect the airport may result in permanent closure, thereby reducing or eliminating its benefits. With this in mind, the **RTP Policy Element** should:

- Discuss applicable policies, goals and objectives in place to enhance the regional aviation system by strengthening support for airports and providing protection from encroachment, noise mitigation issues, ground access, etc. (these can be specific or general regarding land use, ground access, interconnectivity, multi-modalism, etc. that could be applied to the aviation mode). Policies should reflect support for possible growth through anticipated or planned infrastructure improvements. Policies regarding housing and circulation elements of local General Plans, congestion management programs, long range transit plans, significant redevelopment of large areas of the community, development agreements for large projects, airport master plans, Airport Land Use Compatibility Plans, and regional aviation system plans, etc. should all be consistent.
- Discuss and address regional aviation issues and needs.
- Identify and quantify regional needs and objectives in a short (ten-year) and long (twenty-year) term framework.

The **Action Element** identifies programs and actions to implement the RTP:

- Discuss **ground access**, and if the region includes a primary air-carrier airport with annual enplanements over 10,000, an Airport Ground Access Improvement Program per Government Code 65081.1 is required (see Attachment A for a list of current qualifying airports). This program shall address the development and extension of mass transit systems, including passenger rail service, major arterial and highway widening and extension projects and any other ground access improvement projects the planning agency deems appropriate.
- Include discussion of the regional airport system and provide a list of current facility information by airport such as based aircraft, enplanements, operations and cargo as well as future airport system capacity. To assist in determining future growth of airports, Caltrans Division of Aeronautics staff can provide the latest available information on file regarding airport based aircraft, enplanements, operations and cargo as well as future airport system capacity.
- From a local and regional perspective, identify and address issues, needs, and proposed actions for maintaining and/or improving the aviation system. Determine what infrastructure projects will be needed to satisfy future capacity demand at and around the airport. Include a discussion on multimodal needs (like rail and bus connections).
- If applicable, include a discussion on Goods Movement with regard to airports and other gateways as well as the interface issues between highway, air travel, maritime and rail. This discussion should include air cargo growth, forecasts, and expansion of cargo facilities and new technology deployment. (For example: address on and off airport intelligent transportation solutions to access, security, and signage problems, if applicable).

The **Financial Element** summarizes the cost of implementing the RTP based on realistic financial assumptions:

- Match action element projects with funding sources for inclusion in the Aviation Capital Improvement (financial) Plan and other programs.
- Include a short and long-range capital improvement plan, resolving aviation needs and linking projects to objectives.

The Division of Aeronautics has divided staff planning responsibilities by regions as reflected on the attached map (Attachment B). Please feel free to contact the Planner associated with your region for airport information and questions regarding aviation in general or these guidelines.

ATTACHMENT A

PRIMARY COMMERCIAL SERVICE AIRPORTS
With GREATER THAN 10K REPORTED ENPLANEMENTS (2002)

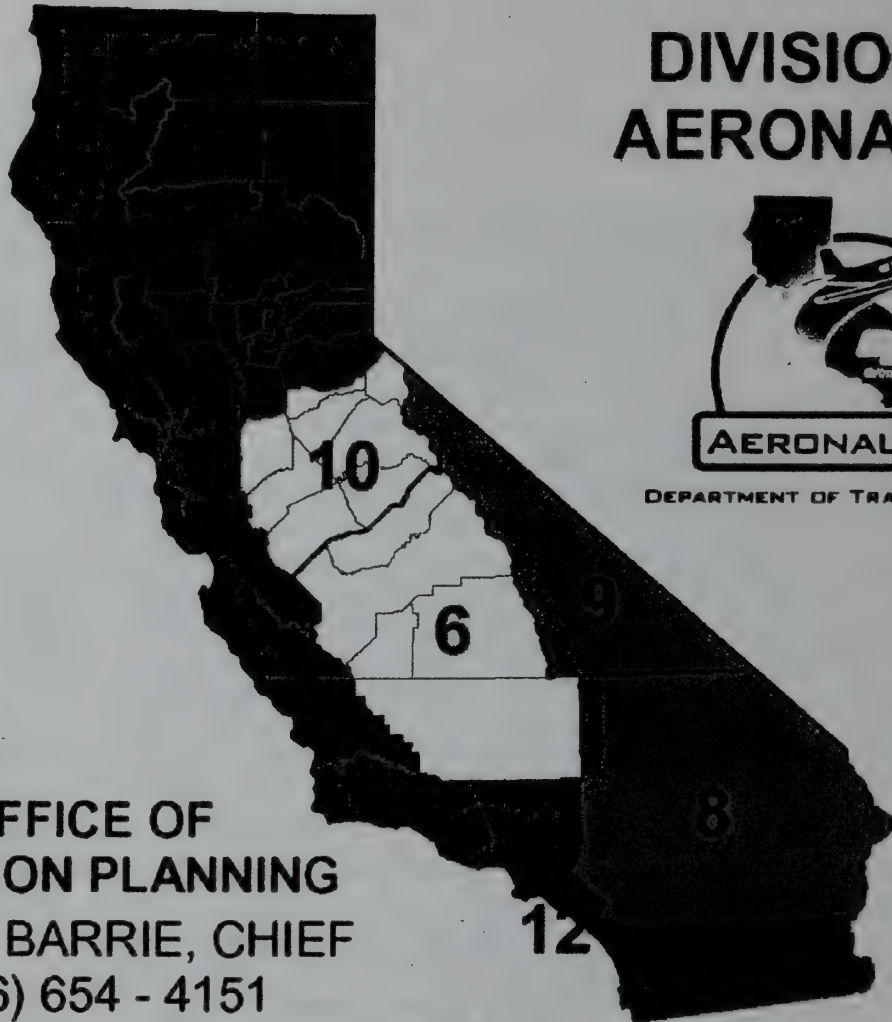
<u>County</u>	<u>Airport</u>	<u>Enplanements</u>
Alameda	<i>Metropolitan Oakland International</i>	6,377,132
Butte	<i>Chico Municipal</i>	18,667
Del Norte	<i>Jack McNamara Field</i>	10,066
Fresno	<i>Fresno-Yosemite International</i>	507,578
Humboldt	<i>Arcata</i>	89,261
Imperial	<i>Imperial County</i>	13,377
Kern	<i>Bakersfield Municipal</i>	96,411
Kern	<i>Inyokern</i>	11,284
Los Angeles	<i>Burbank-Glendale-Pasadena</i>	2,307,463
Los Angeles	<i>Long Beach (Daugherty)</i>	731,279
Los Angeles	<i>Los Angeles International</i>	28,056,607
Monterey	<i>Monterey Peninsula</i>	187,656
Orange	<i>John Wayne Airport, Orange County</i>	3,957,565
Riverside	<i>Palm Springs International</i>	555,381
Sacramento	<i>Sacramento International</i>	4,245,913
San Bernardino	<i>Ontario International</i>	3,260,289
San Clara	<i>San Jose International, Norman Y. Mineta</i>	5,565,034
San Diego	<i>McClellan-Palomar</i>	58,613
San Diego	<i>San Diego International</i>	7,471,644
San Joaquin	<i>Stockton Metropolitan</i>	24,092
San Luis Obispo	<i>San Luis Obispo County</i>	153,150
San Mateo	<i>San Francisco International</i>	15,417,578
Santa Barbara	<i>Santa Barbara Municipal</i>	369,405
Santa Barbara	<i>Santa Maria Public</i>	35,153
Shasta	<i>Redding Municipal</i>	53,671
Stanislaus	<i>Modesto City-County</i>	17,896
Ventura	<i>Oxnard</i>	22,829

CALIFORNIA DEPARTMENT OF TRANSPORTATION

**DIVISION OF
AERONAUTICS**



DEPARTMENT OF TRANSPORTATION



**OFFICE OF
AVIATION PLANNING**
TERRY BARRIE, CHIEF
(916) 654 - 4151

June 2003

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	DISTRICTS 4 & 5	LESLIE SNOW leslie_snow@dot.ca.gov	(916) 654-4380
	DISTRICTS 6 & 10	DEBBIE NOZUKA debbie_nozuka@dot.ca.gov	(916) 654-4389
	DISTRICTS 8 & 9	PHILIP CRIMMINS philip_crimmins@dot.ca.gov	(916) 654-6223
	DISTRICTS 7, 11 & 12	GLEN RICKELTON glen_rickelton@dot.ca.gov	(916) 654-4232

Steve / Theresa / Doug / Chick
5/17/1
From - Ashley

Mendocino Council of Governments

367 North State Street ~ Suite 206 ~ Ukiah, CA 95482

Phone (707) 463-1859 ~ Fax (707) 463-2212

www.mendocinocog.org

April 22, 2004

Mr. Steve Heminger, Executive Director
Metropolitan Transportation Commission
101 Eighth Street
Oakland, CA 94607-4700

ATTN: Ashley Nguyen, Project Manager
RTP Environmental Impact Report

SUBJECT: Notice of Preparation Announcement

Introduction

The purpose of these comments is to focus attention on the need for inter-regional coordination, comment in general on the 2030 RTP approach, and provide some thoughts on the long-range impacts of planning assumptions underlying the plan. It is not our intent to add any additional work to this already too complex task.

Our perspective is that of a "have not" region addressing a "have more than enough" region. You have lots of congestion, complex public transit systems, extensive roadway systems, major aviation and maritime facilities, and myriad funding demands. The Bay area also has an enormous economic engine that is resilient and robust. Although Mendocino County experiences little congestion, it has a limited roadway system, limited transit service, no scheduled air passenger service, no rail service, few maritime facilities, and a huge backlog of deferred maintenance projects. Mendocino County also has major unemployment, a limited economic base and severely restricted opportunities for economic growth. The reason for the "have - have not" distinction will become clear in the discussion of the following points regarding the long-range impacts of the MTC transportation plan.

The information base for our comments on the DEIR scope for the MTC Regional Transportation Plan is the technical work completed for the Wine Country Inter-Regional Partnership (IRP) and review of the State-Wide Traffic Forecast Model traffic assignments for the four-county IRP study area. We are also aware of the new FHWA rule for consultation between major MPOs and rural transportation planning organizations, thus there is a real foundation for cooperation between MTC and both Lake County Area Planning Council (APC) and the Mendocino Council of Governments (MCOG). For both of these one-county regions access improvements linked to economic development are of paramount importance. The Wine Country Inter-Regional Partnership (IRP) has finally achieved a firm organizational foundation with the adoption of a Memorandum of Understanding (MOU) between MCOG, Lake County APC and the Association of Bay Area Governments (ABAG) to continue the process of addressing

jobs-housing imbalance impacts across regional boundaries. As the majority of these impacts will be on the connecting circulation system, MTC will be an essential partner in finding mitigation measures for these impacts. The last bulleted item of the MTC transportation-land use platform is of particular relevance to the comments which follow this section.

Specific Comments

The following specific comments are not meant to be exhaustive, nor add unnecessary work to the environmental review process. Never-the-less some minor task revisions may be required.

1. At the technical level there are several areas of concern in reviewing the basis for the transportation improvement definitions. It may be that we are simply ignorant of the work elements that have gone into the development of system performance information. Our concerns are related to the following elements:
 - The MTC traffic models that have been reviewed for input into the Wine Country IRP forecast year (2020) projections include networks that do not cover all of Sonoma County. This leaves a gap between the northern edge of the MTC network and the south end of the Mendocino County QRS II transportation model network. It also meant that because the MTC model buffer area is well within the Santa Rosa Metropolitan Area, the traffic assignment numbers are subject to distortion and questionable reliability at the cordon station approaches. This is particularly problematic as Route US-101 is the primary connection link between Sonoma and Mendocino Counties. The buffer area for the MTC model should be extended north into Mendocino County. The Statewide traffic model network can provide some guidance for determining the network limits.
 - One of the features of the MTC modeling program is that it focuses on the directional peak hour assignment for the AM peak period. The directional 24-hour traffic volumes are factored from the AM peak hour assignment. The assignment process is tuned to the Production → Attraction direction and thus avoids the need to balance productions to attractions prior to converting to origins and destinations. However, this still leaves many issues regarding the relationship of trip generation by category to the balance of total trips to be assigned. A cursory review of assignment paths on a link by link basis revealed some assignment anomalies that could not be easily understood. Again, it may be the nature of the trip assignment methodology, but does raise issues when trying to find common ground with other traffic model (assignment) results. I am sure that just attempting to model a complex area like the nine-county MTC region is a major achievement, however by using more typical main-stream approaches, comparison to other model results could be enhanced.
2. On page 2, under the heading "Action Element" a single line paragraph states "Aviation and maritime elements are prepared in separate processes and incorporated by reference into the RTP." I am not quite sure what this means, in terms of a

comprehensive and integrated RTP. From the broad planing perspective, both the aviation and maritime elements have direct impacts on the highway and rail elements of the plan. The impact on both of these elements by increased container flow from the port of Oakland is significant. Over the past three years the Port of Oakland has replaced and added container cranes that cover the entire width of a container ship. The importance of this is that the smaller cranes required that a container ship be switched in direction at its berth in order for containers on both sides to be reached. This typically required an entire working day. Now, the entire ship can be off-loaded without a delay, thus increasing the number of container trucks leaving the port on any given day. This has also increased the demand for container trains. In fact, the demand for trains has reached the point of overload, so much so that railroads are arranging for container shipments via eighteen-wheel trucks and paying the additional costs for transportation. The impact on the connecting highways to the Port of Oakland will be substantial. The same situation will be true of the two major airports within MTC's jurisdiction. Although in the near-term the impacts from air travel will be smaller than maritime / container traffic. As air travel once again builds to congestion levels (both passenger and air freight), the impact on the highway system will once again trigger significant congestion. It is critical that improvements programmed for Port and Airports be coordinated with highway and railroad capacity improvements.

3. The issues of economic growth, creation of quality sustainable wage jobs, and diversification of employment sectors are central to infrastructure investment for both Lake and Mendocino Counties. The relationship that currently exists between the MTC greater bay area and our geographic areas (in terms of cross impacts) is still a weak one. The differences, as mentioned in the opening remarks, are striking. The role of transportation and access has been a major element in building the economic base in the Bay Area. The North Bay and rural counties on the north edge of the Bay Area have limited opportunities for the kind of dynamic economic growth associated with the East Bay and Silicon Valley. We have one railroad track that has not seen a train in several years and one major highway route (US-101) to serve enhanced economic activity. While MTC has no direct role in the operating and investment decisions of railroad operators, port districts or major airports, the agency does have a direct role in guiding investment in the supporting infrastructure that makes these modes feasible and successful. We look forward to coordinating with your agency regarding future opportunities for transportation investments that will strengthen the economic base in each affected region.
4. The previously mentioned platform statement in Attachment A of the NOP and the newly promulgated rules for consultation by MPOs are the threads that tie MCOG and the Lake County APC to MTC's planning process. The last bulleted platform statement is *"Better coordinate transportation and land use planning with regions that adjoin the Bay Area, and share the challenges of regional job/housing imbalance and growing inter-regional commuting demands."* We believe that our recently completed background and projection studies for the Wine Country Inter-Regional Partnership (IRP) provide the foundation for implementing this platform statement. The Wine Country IRP is composed of four counties: Sonoma, Mendocino, Napa and

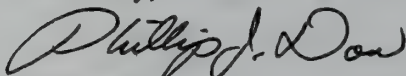
Lake. ABAG is the representative for Sonoma and Napa counties, MCOG and Lake County APC are one-county regions. Our studies indicate that there is potential for significant shifts of work force housing from Sonoma County to both Lake and Mendocino Counties. All of the historical elements involved in market driven jobs – housing imbalance (and geographical separation) are present in the Wine Country jurisdictions. While the Bay Area has transportation problems associated with massive congestion in dealing with work trip demand, our area has roadways that are essentially rural two-lane highways with limited capacity for increased long-distance work trip commuting. There is a real need for coordination regarding programming of roadway improvements. For example SR-29 connects Sonoma County to Lake County through Napa County. This is roadway that is shown to have potential for significant peak period traffic increases, but remains off the “radar screen” for safety and capital improvements. Again, we look forward to discussing these concerns within a cooperative and collaborative process for evaluating project priorities.

5. The wine Country IRP provides a unique vehicle for coordination between MTC, ABAG, Lake County APC, and MCOG on regional transportation planning issues. The fact of inter-regional jobs-housing impacts has been established in the IRP base studies. Opportunities to address coordinated transit service between the four counties and the greater bay area, the potential for extension of SMART service to Mendocino County and the identification of future locations for TOD in-fill development can be acted upon in future RTP up-dates.

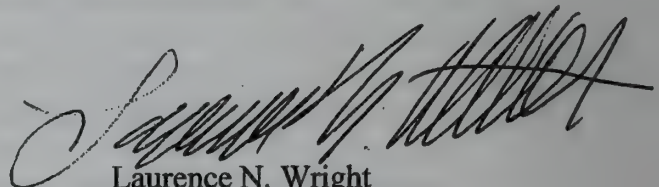
Summary

Clearly, we are using the comment process on your 2030 RTP as the avenue to create lines of communication for future coordination. At this point in our funding and implementation process, creating new initiatives is non-existent. However, this is the ideal time to put in place the mechanisms and procedures to ensure that all future transportation needs are addressed. We also realize that these comments have been prepared, and will reach you, well after the March 19, 2004 deadline identified in the NOP. Hopefully, the substance of these comments has been constructive and will prove to be useful for the current, as well as future RTP up-dates. We look forward to discussing future steps in the consultative process.

Sincerely,



Phillip J. Dow
Executive Director,
Mendocino Council of Governments

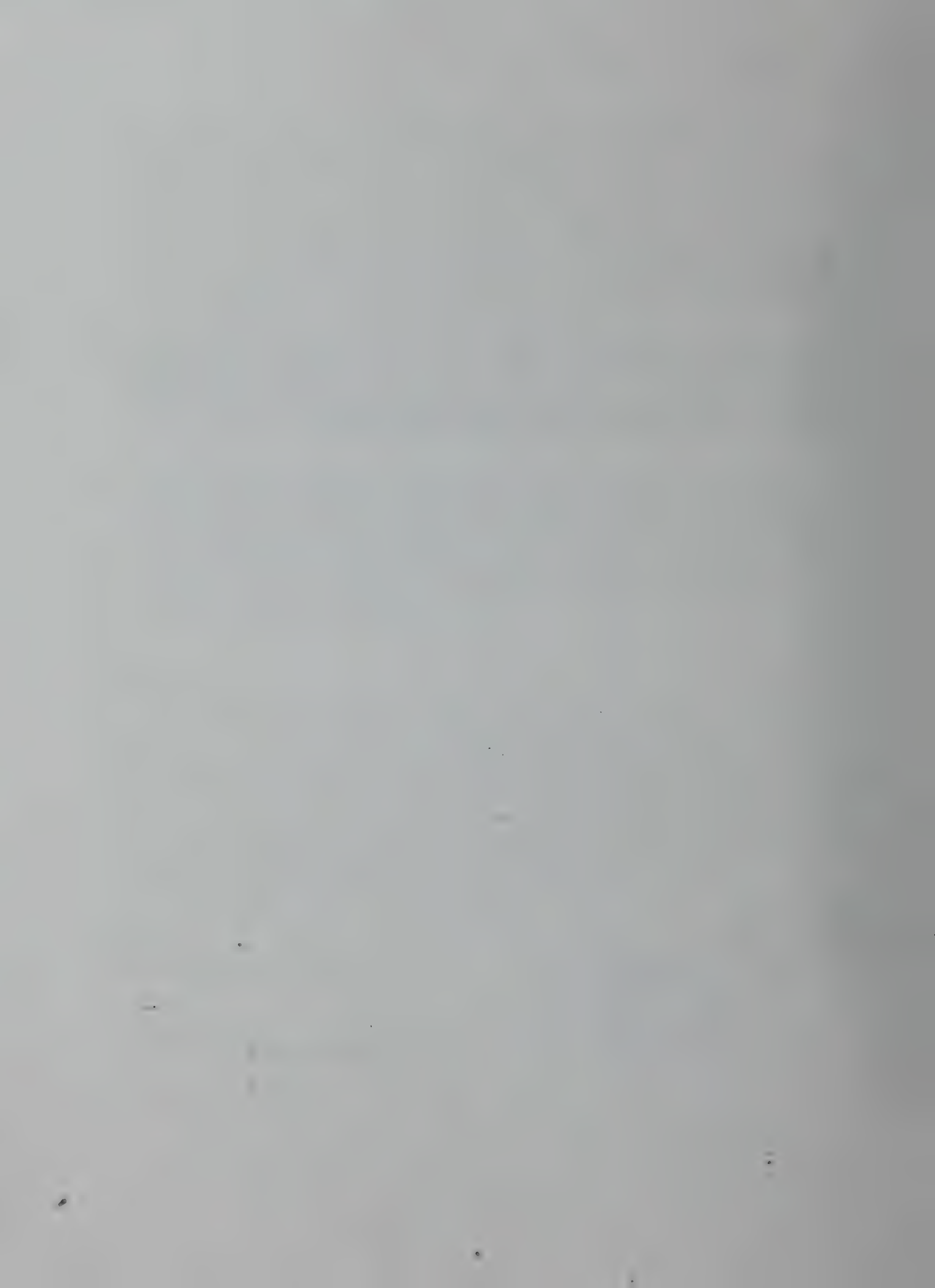


Laurence N. Wright
Wine Country IRP
Program Manager

cc: Bill Kranz, LC/CAPC

Appendix C:

Project Listings for the Transportation 2030 Plan and Alternatives



Appendix C: Project Listing (sorted by County, then by Project ID order)

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)	Alternatives					FC +HOT	FC +Sales Tax	TRANSDEF Smart Growth
					No Project	FC	FC	FC	FC			
Alameda												
21085	Tri-Valley	New Commitment	I-580 Transportation Operations System (TOS) and ramp metering from the San Joaquin county line to the city of Dublin	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21093	Eastshore-South	Vision Element	Route 92/Clawiter Road/Whitesell Street interchange improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21100	Tri-Valley	Committed	I-580/Vasco Road interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21101	Eastshore-South	New Commitment	Extend Tinker Avenue from Webster Street to 5th Avenue (includes Transit Center at College of Alameda)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21103	Eastshore-South	New Commitment	Central Avenue railroad overpass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21105	Tri-Valley	New Commitment	I-580/Isabel interchange improvements (Phases 1 and 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21107	Eastshore-South	New Commitment	I-880/High Street interchange improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21112	Sunol Gateway	New Commitment	Crow Canyon Road safety improvements (Stage 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21114	Fremont-South Bay	Committed	Washington/Paseo Padre Parkway Grade Separation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21123	Fremont-South Bay	New Commitment	Union City Intermodal Station infrastructure improvements (Phase 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21125	Fremont-South Bay	Committed	Route 84 westbound HOV lane extension from Newark Boulevard to I-880.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21126	Fremont-South Bay	Committed	Route 84 westbound HOV on-ramp from Newark Boulevard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21131	Eastshore-South	New Commitment	BART-Oakland International Airport connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)	Alternatives				FC	TRANSDEF
					No Project	FC +HOT	FC +Sales Tax	FC Financially Constrained		
21132	Fremont-South Bay	New Commitment	BART extension to Warm Springs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21133	Tri-Valley	Committed	New West Dublin/Pleasanton BART Station	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21134	Eastshore-North	New Commitment	Rapid Bus Transit (RBT) in the San Pablo Corridor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21138	Eastshore-South	New Commitment	San Leandro BART Station transit village (Phase I); includes parking structure, kiss-and-ride and bus circulation improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21139	Tri-Valley	New Commitment	Vasco Road safety improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21144	Eastshore-North	New Commitment	I-80/Gilman Avenue interchange improvements (includes roundabouts)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21145	Alameda County-wide	New Commitment	Corridor Management Program: signal interconnect, transit priority, SMART corridors and other improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21149	Transbay San Mateo-Hayward and Dumbarton Bridges	New Commitment	Upgrade express bus services in Dumbarton corridor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21151	Tri-Valley	New Commitment	LAVTA maintenance/operations facility	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21153	Eastshore-North	Vision Element	AC Transit bus corridor improvements in Oakland, Berkeley and San Leandro (Stage 2. Bus Rapid Transit)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21154	Alameda County-wide	Vision Element	AC Transit bus acquisition for transbay, express, subscription or local services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21157	Eastshore-South	New Commitment	I-80/Ashby Avenue/Shellmound Street interchange modification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21159	Alameda County-wide	New Commitment	AC Transit facilities expansion in northern Alameda County	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID Corridor		Investment Type	Project Description	Alternatives					FC=Financially Constrained		
				Transportation 2030 Plan (Proposed Project)	No Project	FC	FC +HOT	FC +Sales Tax	FC	TRANSDEF	Smart Growth
21160	Eastshore-North	Vision Element	AC Transit major corridor enhancements: MacArthur Avenue/West Grand Avenue; College Avenue/University Avenue; Shattuck Avenue/The Alameda; Foothill Boulevard; Sacramento Street/Market Street; Mission Boulevard/outer East 14th Street; Hesperian Boulevard.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21185	Eastshore-South	New Commitment	Extend Eden Road from Doolittle Drive to city of San Leandro water pollution control plant	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21196	Fremont-South Bay	Vision Element	Union City Intermodal Station (Phase 3), includes BART parking structure to support transit village	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21417	Transbay San Mateo-Hayward and Dumbarton Bridges	Committed	Dumbarton Express park-and-ride: 90 spaces on Decoto Road near I-880 by the Dumbarton Bridge (includes right-of-way acquisition)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21451	Eastshore-South	Committed	East 14th Street/Hesperian Boulevard/150th Street channelization improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21455	Tri-Valley	Committed	Widen I-238 between I-580 and I-880 from 4 lanes to 6 lanes, includes auxiliary lanes on I-880 south of I-238	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21456	Tri-Valley	Committed	I-580 auxiliary lanes between Santa Rita Road/Tassajara Road and Airway Boulevard interchanges	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21460	Tri-Valley	Committed	Iron Horse bicycle, pedestrian and transit route	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21464	Alameda County-wide	Committed	Paratransit for AC Transit, BART, non-mandated city programs, service gap coordination	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21465	Alameda County-wide	Committed	Transit enhancements funded by transit center development funds	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21466	Eastshore-South	Committed	Washington Avenue/Beatrice Street interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21467	Eastshore-South	Committed	Extend Westgate Parkway along eastern edge of Westgate Shopping Center between Williams Street and Davis Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives			
				No	Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF	Smart Growth
21468	Alameda County-wide	Committed	Transit operations - AC Transit, Welfare to Work, Alameda ferries, Altamont Commuter Express (ACE), Union City Transit, Livermore Amador Valley Transit Authority (LAVTA), and countywide express bus	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21470	Sunol Gateway	Committed	I-680/Sunol Boulevard ramp improvements (includes signal improvements and widening under existing structure)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21472	Sunol Gateway	Committed	I-680/Bernal Avenue interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21473	Tri-Valley	Committed	Construct a 4-lane major arterial connecting Dublin Boulevard and North Canyons Parkway	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21475	Tri-Valley	Committed	I-580/First Street interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21477	Tri-Valley	Committed	I-580/Greenville Road interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21480	Fremont-South Bay	Committed	Route 84/Ardenwood Boulevard westbound offramp intersection improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21482	Fremont-South Bay	Committed	Extend Fremont Boulevard to connect to I-880/Dixon Landing Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21483	Fremont-South Bay	Committed	Widen Stevenson Boulevard from I-880 to Blacow Road from 4 lanes to 6 lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21484	Fremont-South Bay	Committed	Widen Kato Road from Warren Avenue to Milmont Drive	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21486	Fremont-South Bay	Committed	Paseo Padre Parkway/Peralta Boulevard (Route 84) intersection improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21487	Fremont-South Bay	Committed	Widen Mowry Avenue from Mission Boulevard to Peralta Boulevard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21488	Fremont-South Bay	Committed	Warren Avenue/Warm Springs Boulevard intersection improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)	No Project	Alternatives			
						FC	+HOT	+Sales Tax	FC TRANSDEF Smart Growth
21489	Tri-Valley	Committed	I-580/San Ramon Road/Foothill Road interchange improvement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21492	Tri-Valley	Committed	Extend Scarlett Drive from Dublin Boulevard to Dougherty Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21493	Tri-Valley	Committed	I-580/I-680 Transportation Operations System (TOS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21863	Alameda County-wide	Committed	Local bridge maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21886	Eastshore-South	Committed	Widen unimproved segment of Industrial Parkway between Whipple Road and improved segment of Industrial Parkway from 2 lanes to 4 lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21896	Fremont-South Bay	Committed	Route 84 vertical and horizontal alignment improvements in Fremont (from 3 miles east of I-680 to 5.1 miles east of I-680)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21992	Alameda County-wide	Committed	AC Transit bus corridor improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22002	Transbay Bay Bridge	New Commitment	Extend HOV lane on I-880 northbound from existing HOV terminus at Bay Bridge approach to Maritime on-ramp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22007	Alameda County-wide	Committed	Bicycle and pedestrian projects	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22013	Tri-Valley	New Commitment	I-580 corridor improvements (includes widen I-580 in both directions for HOV and auxiliary lanes from Tassajara Road to Greenville Road, construct HOV direct connector from westbound I-580 to southbound I-680, construct eastbound truck climbing lane from Flynn Road to Greenville Road (Altamont Summit), and acquire express buses)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22038	Eastshore-North	New Commitment	San Francisco-Oakland Bay Bridge toll plaza HOV bypass lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22042	Fremont-South Bay	New Commitment	Widen I-680 for northbound HOV lane from Route 237 to Stoneride Drive (includes ramp metering and auxiliary lanes)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22056	Eastshore-North	New Commitment	Ed Roberts Campus at Ashby BART Station	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

			Alternatives										FC=Financially Constrained
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							+HOT	+Sales Tax					
22059	Eastshore-North	New Commitment	Improve downtown streets and pedestrian plaza surrounding Berkeley BART Station	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22062	Fremont-South Bay	New Commitment	Construct infrastructure for future Irvington BART Station	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22063	Eastshore-South	New Commitment	Route 238 corridor improvements between Foothill Boulevard/Mattox Road to Mission Boulevard/Industrial Parkway (includes adding a lane throughout the corridor and grade separations at the Foothill/Mission/Jackson interchange)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22064	Sunol Gateway	New Commitment	Convert southbound High Occupancy Vehicle (HOV) lane on I 680 between Route 84 and Route 237 into High Occupancy Toll (HOT) lane	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22080	Eastshore-South	New Commitment	Oakland Citywide Intelligent Transportation Systems (ITS) (Phase I)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22082	Eastshore-South	New Commitment	Reconstruct 7th Street/Union Pacific Railroad grade separation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22084	Eastshore-South	New Commitment	Oakland International Aiport North Field access road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22085	Eastshore-North	Vision Element	Various grade separations at Union Pacific railroad tracks (including Market Street, Martin Luther King Way, High Street, 98th Street)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22086	Eastshore-South	Vision Element	I-880 incident management, ramp metering, and traveller information	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22087	Eastshore-South	Vision Element	I-880/Oak Street on-ramp reconstruction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22088	Tri-Valley	Vision Element	I-580/I-680 interchange truck bypass lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22089	Eastshore-North	Vision Element	Various railroad track and signal improvements between Emeryville and Richmond and Richmond and Pittsburg; new railroad tracks between Port of Oakland and Emeryville; and grade separation structures in Richmond at Marina Bay Parkwa	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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				No	Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF	
22092	Tri-Valley	New Commitment	Alameda County Transportation Operating System (TOS) and ramp metering from Dublin to I-880, including I-238	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22100	Eastshore-South	New Commitment	Replace I-880/Davis Street overcrossing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22101	Eastshore-South	New Commitment	Replace I-880/Marina Boulevard overcrossing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22106	Eastshore-South	Vision Element	Extend Whitesell Street as a 4-lane arterial from Enterprise to Depot Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22110	Eastshore-North	New Commitment	University Avenue traffic management and streetscape enhancements to support enhanced bus service	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22403	Alameda County-wide	Vision Element	Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22432	Fremont-South Bay	Vision Element	Construct Irvington BART Station	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22455	Eastshore-North	New Commitment	AC Transit Bus Rapid Transit (BRT) and Enhanced Bus: Telegraph Avenue/International Boulevard corridor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22469	Tri-Valley	Committed	East Dublin BART Station transit village	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22508	Alameda County-wide	Vision Element	Alameda County lifeline transit priorities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22509	Transbay Bay Bridge	New Commitment	Alameda/Oakland to San Francisco ferry service and Harbor Bay to San Francisco ferry service	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22511	Transbay Bay Bridge	New Commitment	Berkeley/Albany to San Francisco ferry service	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22538	Tn-Valley	TRANSDEF	TRANSDEF-Modification: I-580 Westbound to State Route 2: (Foothill) Connector	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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22539	Eastshore-South	TRANSDEF	TRANSDEF-Modification: Construct underpass of Mission by Jackson and Foothill at the SR 238, SR 185, and SR 92 intersection just south of downtown Hayward (2 lanes in each direction) (Modification to Alameda #94507)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
22540	Eastshore-South	TRANSDEF	TRANSDEF-Modification: Widen SR 92 bridge to four lanes EB over I-880 to handle the afternoon peak weave of cloverleaf traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
22647	Alameda County-wide	Vision Element	Low-income student bus pass program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22657	Tri-Valley	New Commitment	I-205/I-580 Altamont Pass westbound truck lane	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22659	Eastshore-North	Vision Element	Ashby BART Station transit-oriented development in west parking lot, and station capacity improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22660	Eastshore-South	Vision Element	Widen I-880 by adding one lane in each direction between Whipple and Jackson	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22661	Eastshore-North	Vision Element	Adeline Street bridge reconstruction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22664	Tri-Valley	Vision Element	I-580 High Occupancy Toll (HOT) lanes from Greenville Road west to I-680	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22666	Tri-Valley	Vision Element	Route 84 High Occupancy Toll (HOT) lanes in Tri-Valley	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22667	Tri-Valley	Vision Element	Tri-Valley rail extension from Dublin/Pleasanton BART Station to Greenville Road in the I-580 median	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22668	Fremont-South Bay	Vision Element	Add northbound and southbound I-680 HOV lanes between Route 84 in Alameda County to Alcosta Boulevard in Contra Costa County	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22670	Eastshore-South	Vision Element	Widen I-880 for HOV lanes northbound from Hacienda overcrossing to 98th Avenue and southbound from 98th Avenue to Marina Boulevard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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				No	Project	FC	+HOT	FC	FC	+Sales Tax	FC	TRANSDEF	Smart Growth	
22671	Eastshore-South	Vision Element	Construct direct HOV connection between southbound I-880 to westbound Route 84 (Dumbarton Bridge approach)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22673	Eastshore-South	Vision Element	I-880 modernization and ramp reconfiguration in Oakland as identified in the I-880 Safety & Operations Study	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22760	Eastshore-South	New Commitment	Outer Harbor intermodal terminal (formerly known as Joint Intermodal Terminal (JIT) expansion)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22761	Eastshore-South	New Commitment	I-880 from Hegenberger Road to I-980 operation improvements (includes freight movement to Port of Oakland)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22763	Eastshore-South	New Commitment	Reconstruct southbound I-880 on- and off- ramps in conjunction with I-880/5th Street seismic retrofit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22764	Eastshore-South	New Commitment	Construct auxiliary lane on I-880 between Hegenberger Road and 66th Avenue and shift merge point of the westbound Hegenberger Road to I-880 on-ramp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22766	Eastshore-South	New Commitment	Fruitvale Avenue Rail Bridge seismic retrofit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22768	Eastshore-South	New Commitment	Estuary Bridges seismic retrofit and repairs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22769	Eastshore-South	New Commitment	I-880/29th Avenue interchange safety and access improvement:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22770	Eastshore-North	New Commitment	Traffic signal on Grand Avenue at Rose Avenue/Arroyo Avenue intersection in Piedmont	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22771	Eastshore-North	New Commitment	Reconfigure Marin Avenue from San Pablo Avenue to Albany/Berkeley city line from 2 lanes to 1 lanes in each direction to accommodate turn lane and bike lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22773	Alameda County-wide	New Commitment	Transit capital replacement, local road rehabilitation and safety projects	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

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22774	Alameda County-wide	New Commitment	Bicycle and pedestrian improvements in Cherryland/Ashland and South Hayward areas as recommended in community-based transportation plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22775	Eastshore-South	New Commitment	Broadway Avenue and Telegraph Avenue bus, BART, bicycle and taxi integration improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22776	Tri-Valley	New Commitment	Widen Route 84 from 2 lanes to 4 lanes from north of Pigeon Pass to Vineyard Avenue and 2 lanes to 4 or 6 lanes from Vineyard Avenue to Jack London Boulevard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22777	Tri-Valley	New Commitment	I-580 on- and off-ramp improvements in Castro Valley	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22778	Eastshore-South	New Commitment	Lewelling Boulevard/East Lewelling Boulevard road modifications from Hesperian Boulevard to East 14th Street to improve channelization and accommodate pedestrian and bicycle facilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22779	Fremont-South Bay	New Commitment	Route 262/Warren Avenue/I-880 interchange improvements (including Union Pacific Railroad grade separation) (Phase 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22780	Alameda County-wide	New Commitment	AC Transit Bus Rapid Transit improvements along major corridors (includes MacArthur Boulevard/West Grand Avenue, College Avenue/University Avenue, Shattuck Avenue/Alameda Boulevard, Foothill Boulevard, Sacramento Street/Market Street, Mission Boulevard/Outer East 14th Street, Hesperian Boulevard)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22781	Eastshore-North	New Commitment	Traffic signals in Albany	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22782	Eastshore-South	New Commitment	Transit oriented development (including replacement parking) at MacArthur, West Oakland, and/or Coliseum BART Stations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22783	Eastshore-South	New Commitment	Fruitvale Avenue Bridge seismic retrofit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22784	Tri-Valley	Committed	Narrow First Street between P Street and Maple Street from 4 lanes to 2 lanes to calm traffic and accommodate pedestrians	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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22785	Tri-Valley	Committed	Construct I-580 eastbound auxiliary lane from First Street to Vasco Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22786	Tri-Valley	Committed	Install ramp metering on all existing ramps along I-580 in Livermore	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22787	Tri-Valley	Committed	Realign Isabel/Vallecitos intersection for through movement on Route 84	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22796	Tri-Valley	Committed	Construct 4-lane arterial connection between future eastern end of Dublin Boulevard in Dublin to North Canyons Parkway in Livermore	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22990	Fremont-South Bay	New Commitment	Widen Route 262 from I-880 to Warm Springs Boulevard (including reconstructing Route 262/I-880 and Route 262/Kate Road interchanges) and reconstruct Union Pacific Railroad underpasses	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22991	Fremont-South Bay	Committed	Widen I-680 for southbound High Occupancy Vehicle/High Occupancy Toll (HOV/HOT) lane from Route 237 to Route 84 (includes ramp metering and auxiliary lanes)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
94001	Alameda County-wide	New Commitment	Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
94003	Alameda County-wide	Vision Element	BART (Alameda County share) operating and capital replacement program shortfall (excludes seismic program)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
94004	Alameda County-wide	Vision Element	AC Transit (Alameda County share) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
94012	Fremont-South Bay	New Commitment	Union City Intermodal Station (Phase I)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
94024	Tri-Valley	Committed	Auto/truck separation lane at I-580/I-205 interchange	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Project ID	Corridor	Investment Type	Project Description	Alternatives					FC=Financially Constrained	
				Transportation 2030 Plan (Proposed Project)	No Project	FC	+HOT	FC	+Sales Tax	TRANSDEF Smart Growth
94030	Fremont-South Bay	Committed	Reconstruct I-880/Route 262 interchange and widen I-880 from Route 262 (Mission Boulevard) to the Santa Clara County line from 8 lanes to 10 lanes (8 mixed-flow and 2 HOV lanes)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
94504	Alameda County-wide	Committed	Construct 4-lane Airport Roadway (mostly on Port of Oakland property) from I-880/98th Avenue interchange to Oakland International Airport and then to Bay Farm Island	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94506	Fremont-South Bay	Committed	Widen Route 84 to 6-lane parkway from I-880 to Paseo Padre and 4-lane parkway from Paseo Padre to Mission Boulevard along the Historic Parkway alignment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
94522	Alameda County-wide	Committed	Local streets and roads pavement and non-pavement maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94525	Alameda County-wide	New Commitment	BART (Alameda County share based on population) - transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements, equipment, fixed facilities and other capital assets; does not include expansion except BART-to-SFO extension)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94526	Alameda County-wide	New Commitment	AC Transit (Alameda County share based on population) - transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94527	Alameda County-wide	Committed	Livermore Amador Valley Transit Authority (LAVTA) transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98139	Sunol Gateway	New Commitment	ACE station/track improvements in Alameda County (including parking improvements at Vasco Road and downtown Livermore stations)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)	Alternatives				FC	TRANSDEF
					No Project	FC +HOT	FC +Sales Tax	FC Smart Growth		
98153	Eastshore-North	Committed	Reconstruct MacArthur Boulevard onramp to restore access to I-80 eastbound and I-580 westbound	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98207	Eastshore-South	New Commitment	I-880/Broadway-Jackson interchange improvements (Phase I)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98208	Alameda County-wide	New Commitment	Soundwalls program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Bay Area Region										
21001	Region	New Commitment	Freeway Traffic Operations Systems	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21002	Region	New Commitment	Freeway Service Patrol (FSP)/freeway call boxes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21003	Region	New Commitment	Technical Assistance Programs/arterial signal retiming	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21005	Region	New Commitment	TransLink®	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21006	Region	New Commitment	S11/Transit (regional transit information systems) and transportation marketing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21007	Region	New Commitment	Rideshare Program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21008	Region	New Commitment	S11/Traffic	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21010	Region	New Commitment	Performance monitoring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21011	Region	New Commitment	Transportation for Livable Communities (TLC)/Housing Incentive Program (HIP) - regional and county programs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21012	Golden Gate	Committed	Golden Gate Bridge seismic retrofit (completes Phases 2 and 3)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21013	Region	Committed	Rehabilitation of Bay Area state-owned toll bridges	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21014	Transbay Richmond-San Rafael Bridge	Committed	Richmond-San Rafael Bridge deck replacement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)	Alternatives				FC=Financially Constrained	
					No Project	FC +HOT	FC +Sales Tax	FC Smart Growth		
21015	Region	Committed	Seismic retrofit of Bay Area state-owned toll bridges, excluding San Francisco-Oakland Bay Bridge (see #21778 and #21879 below)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21017	Region	Committed	Small transit operators in Alameda, Contra Costa, Napa, Solano and Sonoma Counties - transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21066	Region	Vision Element	California High-Speed Rail with terminal in San Francisco	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21320	Golden Gate	Committed	Golden Gate Bridge moveable median barrier	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21619	Peninsula	New Commitment	Caltrain express tracks (Phase 2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21627	Peninsula	New Commitment	Caltrain electrification from San Francisco to Gilroy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21778	Transbay Bay Bridge	Committed	San Francisco-Oakland Bay Bridge: seismic retrofit of the west span and west approach	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21879	Transbay Bay Bridge	Committed	San Francisco-Oakland Bay Bridge: east span seismic safety project	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22001	Golden Gate	Committed	SMART Commuter Rail project (environmental, preliminary engineering, and right-of-way)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22003	Eastshore-North	Committed	Capital Corridor: Phase 2 enhancements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22005	Eastshore-South	Vision Element	ACE service expansion to eight (8) trains	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22006	Region	Committed	Downtown Ferry Terminal improvements and spare ferry vessels	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

			Alternatives								FC=Financially Constrained	
Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)		No Project	FC		FC +Sales Tax	TRANSDEF Smart Growth		
				Project	FC		+HOT	FC				
22009	Eastshore-North	Committed	Capitol Corridor intercity rail service (track capacity/frequency improvements from Oakland to San Jose designed to allow 16 daily round trips between Oakland and Sacramento/San Jose)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
22016	Region	Vision Element	Various High-Occupancy Vehicle (HOV) lane gap closures to complete the HOV/High-Occupancy Toll (HOT) network	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22090	Region	Vision Element	California Interregional Intermodal Study (CIRIS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22240	Region	Committed	Regional Measure 2 Express Bus South Improvements (includes park-and-ride lots, HOV access improvements, and rolling stock)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
22241	Region	Committed	Regional Measure 2 Studies (includes regional rail study, transit connectivity study, Water Transit Authority (WTA) environmental studies, I-680/Pleasant Hill BART connector study, and Caldecott Tunnel transit ridership study)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
22242	Region	Committed	Real-Time Transit Grant Program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
22243	Region	Committed	Regional Measure 2 Express Bus North Improvements (includes park and ride lots and rolling stock)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
22244	Region	Committed	City Carshare	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
22245	Region	Committed	Safe Routes to Transit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
22247	Region	New Commitment	Regional Bicycle and Pedestrian Program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
22421	Region	New Commitment	Clean Air Program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
22423	Region	New Commitment	Lifeline Transportation Program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
22425	Region	New Commitment	Surface Transportation Program (STP) and 10-year support for Transportation Planning and Land Use Solutions (T-PLUS) planning funds for counties	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

Project ID	Corridor	Investment Type	Project Description	Alternatives					FC=Financially Constrained		
				Transportation 2030 Plan (Proposed Project)	No Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF Smart Growth
22491	Region	Vision Element	Small transit operators operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22513	Golden Gate	Vision Element	Sonoma Marin Area Rail Transit District (SMART) commuter rail (construction only)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22520	Region	Committed	BART earthquake safety program (excludes Phase I of transbay tube earthquake safety project)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22521	Region	Vision Element	Freeway Traffic Operations Systems (TOS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22524	Region	Vision Element	TransLink®	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22526	Region	Vision Element	511/Transit (regional transit information systems) and transportation marketing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22528	Region	Vision Element	511/Traffic (TravInfo®)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22529	Region	Vision Element	Transportation for Livable Communities (TLC)/Housing Incentive Program (HIP) - regional and county programs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22537	Region	Vision Element	Express Bus System from MTC's 2002 HOV Master Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22541	Region	TRANSDEF	TRANSDEF-Defined: Rapid Bus Transit regionwide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22542	Region	TRANSDEF	TRANSDEF-Defined: DMU Operations for SR 4 and Vallejo-Napa corridors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22543	Region	TRANSDEF	TRANSDEF-Defined: High Speed Rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22636	Region	Committed	BART transbay tube earthquake safety (Phase I)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22654	Golden Gate	Vision Element	Golden Gate Bridge rehabilitation projects	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22674	Region	New Commitment	BART Core Capacity Program - system capacity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)	No Project	Alternatives				FC TRANSDEF Smart Growth
						FC	+HOT	FC	+Sales Tax	
22675	Region	New Commitment	BART Core Capacity Program - station access	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22676	Region	New Commitment	BART Core Capacity Program - station capacity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22677	Region	Vision Element	BART Core Capacity Program - vehicles	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22678	Region	Vision Element	BART earthquake safety program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22679	Region	Vision Element	BART Core Capacity Program - system capacity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22680	Region	Vision Element	BART Core Capacity Program - station access	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22681	Region	Vision Element	BART Core Capacity Program - station capacity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
94514	Transbay San Mateo-Hayward and Dumbarton Bridges	Committed	I-880/Route 92 interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
94540	Eastshore-North	Committed	Carquinez Bridge replacement: construct new suspension bridge west of existing bridges (4 westbound lanes, including an HOV lane, plus new bicycle/pedestrian pathway) and modify Crockett interchange	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94541	Eastshore-North	Committed	New Benicia-Martinez Bridge: construct new bridge span east of existing span (4 mixed-flow lanes and 1 slow-vehicle lane). Includes new toll plaza and upgrades to I-680/I-780 interchange and I-680/Marina Vista Road interchange, and reconstruction of the existing bridge for 4 mixed-flow lanes and bicycle and pedestrian lane	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contra Costa										
21036	Diablo	Vision Element	Selected additional I-680 auxiliary lanes south of I-680/Route 2 interchange	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21202	Contra Costa County-wide	New Commitment	Bicycle and pedestrian projects	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)				Alternatives			
				No	FC	FC	FC	FC	FC	FC	FC
				Project	+HOT	+Sales Tax	TRANSDEF				
							Smart Growth				
21203	Contra Costa County-wide	New Commitment	Express bus capital costs for commuter bus service from Contra Costa Express Bus Study	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21204	Contra Costa County-wide	New Commitment	Ancillary park-and-ride, transit access, express bus service enhancements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21205	Diablo	New Commitment	I-680/Route 4 interchange freeway-to-freeway direct connectors: eastbound Route 4 to southbound I-680, and northbound I- 680 to westbound Route 4 (Phases 1 and 2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21206	Diablo	New Commitment	Caldecott Tunnel fourth bore	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21207	Diablo	New Commitment	Martinez Intermodal Terminal Facility (Phase 3 initial segment): 200 interim parking spaces (includes site acquisition, demolition and construction)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21208	Eastshore North	Committed	Richmond Parkway Transit Center (includes signal reconfiguration/timing, new 700-800 space parking facility and security improvements at Hilltop park-and-ride lot)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21209	Eastshore-North	New Commitment	Hercules Transit Center relocation and expansion	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21210	Eastshore-North	New Commitment	Capitol Corridor train station in Hercules	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21211	Delta	Committed	BART/East Contra Costa rail extension (ENV, Preliminary Engineering, and ROW)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21212	Delta	Committed	Construct auxiliary lane along eastbound Route 4 and widen Hillcrest Avenue eastbound off-ramp from 1 lane to 2 lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21213	Delta	Committed	Pittsburg/Bay Point BART Station parking & lighting improvements (400 new spaces)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21214	Delta	Committed	Widen Wilbur Avenue over Burlington Northern Santa Fe Railroad from 2 lanes to 4 lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Investment			Project Description	Transportation 2030 Plan (Proposed Project)				Alternatives				FC	TRANSDEF
Project ID	Corridor	Type		No Project	FC	+HOT	FC	+Sales Tax	FC	Smart Growth			
21216	Delta	Committed	Extend Laurel Road from Route 4 Bypass to Empire Avenue	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21218	Contra Costa County-wide	Vision Element	Additional bus transit operations support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21223	Diablo	Vision Element	I-680 transit corridor improvements (including express bus service enhancements and improved connections to BART)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21225	Contra Costa County-wide	Vision Element	Regional and local pedestrian and bicycle improvements, including overcrossing locations to be determined	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21864	Contra Costa County-wide	Committed	Local bridge maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22004	Eastshore-North	Vision Element	AC Transit Regional Lifeline Transit priorities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22011	Delta	Vision Element	BART/East Contra Costa rail extension (Construction)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22122	Transbay Bay Bridge	Vision Element	Ferry service in western Contra Costa County (Richmond and Hercules or Rodeo)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22336	Delta	Vision Element	Widen shoulders of Byron Highway and construct grade separation over Union Pacific railroad tracks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22342	Diablo	Vision Element	Express bus service expansion along I-680 corridor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22346	Delta	Vision Element	Express bus service expansion along I-580 corridor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22350	Diablo	Vision Element	I-680/Route 4 interchange improvements (Phases 3 through 5) and HOV flyover ramps	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22351	Diablo	Vision Element	I-680 northbound HOV gap closure between North Main Street and Route 242	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22352	Diablo	Vision Element	I-680/Norris Canyon Road HOV direct ramps in San Ramon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives			FC=Financially Constrained		
				No Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF	Smart Growth			
22353	Diablo	Committed	I-680 southbound HOV gap closure between North Main Street and Livorna	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
22354	Diablo	Vision Element	I-680/Marina Vista interchange improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22355	Eastshore-North	Vision Element	I-80/Central Avenue interchange modifications	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22358	Eastshore-North	Vision Element	I-80/Route 4 interchange improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22360	Eastshore-North	Vision Element	I-80/San Pablo Dam Road interchange reconstruction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22365	Diablo	Vision Element	Martinez Ferry landside improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22371	Contra Costa County-wide	Vision Element	Park-and-ride lots for the support of Regional Express Bus service	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22375	Diablo	Vision Element	Route 24 and I-680 Traffic Operations System (TOS) and fiber optic cable project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22376	Delta	Vision Element	Route 4 ramp meter, Traffic Operations System (TOS) and fiber optic cable project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22378	Eastshore-North	Vision Element	I-80 and I-580 Traffic Operations System (TOS) and fiber optic cable project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22382	Eastshore-North	Vision Element	Richmond Parkway/San Pablo Avenue grade separated interchange	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22383	Eastshore-North	Vision Element	Upgrade Richmond Parkway geometry to principal arterial standards	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22388	Diablo	Vision Element	Construct Route 242/Clayton Road northbound on-ramp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22389	Diablo	Vision Element	Construct Route 242/Clayton Road southbound off-ramp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

Project ID	Corridor	Investment Type	Project Description	Alternatives					FC=Financially Constrained
				Transportation 2030 Plan (Proposed Project)	No Project	FC	+HOT	FC	
									TRANSDEF Smart Growth
22390	Delta	Vision Element	Reconstruct Route 4/Willow Pass Road ramps in Concord	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22392	Delta	Vision Element	Route 4/Range Road interchange construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22400	Delta	Vision Element	Construct Route 239 from Brentwood to Tracy Expressway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22402	Diablo	Vision Element	School bus programs in San Ramon and Lamarinda	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22404	Contra Costa County-wide	Vision Element	Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22483	Contra Costa County-wide	Vision Element	Central Contra Costa Transit Authority (CCCTA) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22510	Transbay Bay Bridge	Vision Element	Antioch/Pittsburg to Martinez to San Francisco ferry service	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22516	Eastshore-North	Vision Element	Enhance Capitol Corridor regional rail service (West Contra Costa and Solano counties)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22600	Delta	Committed	Widen Somersville Road Bridge in Antioch to 4 lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22601	Delta	Committed	Route 4 Bypass, Segment 3: construct a 2-lane facility from Balfour Road to Walnut Boulevard, and upgrade Marsh Creek Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22602	Diablo	New Commitment	Construct I-680 auxiliary lanes in both directions from Sycamore Valley Road to Crow Canyon Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22603	Eastshore-North	New Commitment	Richmond intermodal transfer station (680 space parking garage)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22604	Delta	Vision Element	Construct safety and operational improvements (including potential realignment) on Vasco Road from Brentwood to Alameda County line	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Project ID Corridor		Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives			FC=Financially Constrained	
				No	Project	FC	+HOT	FC	FC	+Sales Tax	FC	TRANSDEF	Smart Growth
22605	Delta	Vision Element	Route 4 Bypass, Segments 2 & 3: widen and upgrade to full freeway (widen segment 2 to 6 lanes from Lone Tree to Balfour, and widen segment 3 to 4 lanes from Balfour to Walnut)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22607	Delta	Vision Element	Major streets widening, extensions and interchange improvements (East County)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22609	Diablo	Vision Element	Major streets widening, extensions and interchange improvements (Central County)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22610	Eastshore-North	Vision Element	Major streets widening, extensions and interchange improvements (West County)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22611	Eastshore-North	Vision Element	Low-income student bus pass program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22612	Diablo	Vision Element	I-680/Sycamore Valley Road direct HOV ramps in Danville	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22613	Eastshore-North	Vision Element	Major streets widening, extensions and interchange improvements (Southwest County)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22614	Diablo	Vision Element	Martinez Intermodal Station (Phase 3): construction of an additional 425 spaces and auto/pedestrian bridges	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22637	Diablo	Committed	BART crossover at the Pleasant Hill BART Station	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22981	Delta	Vision Element	Widen Route 4 as continuous 4-lane arterial from Marsh Creek Road to San Joaquin County line	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
94036	Contra Costa County-wide	New Commitment	Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94038	Contra Costa County-wide	Vision Element	AC Transit (Contra Costa County share) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives		
				No	Project	FC	+HOT	FC	FC	+Sales Tax	TRANSDEF Smart Growth
94040	Contra Costa County-wide	Vision Element	BART(Contra Costa County share) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
94045	Eastshore-North	New Commitment	New express buses for I-80 HOV service (capital costs)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94046	Delta	New Commitment	Non-capacity-increasing improvements to interchanges and parallel arterials to Route 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94047	Eastshore North	Committed	Extend the northern limits of the I-80 westbound HOV lane from north of Cummings Skyway to Route 4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
94048	Eastshore-North	New Commitment	Non-capacity-increasing improvements to interchanges and parallel arterials to I-80	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94050	Delta	New Commitment	Upgrade Route 4 to full freeway from I-80 to Cummings Skyway (Phase 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94051	Diablo	Committed	I-680 auxiliary lane from Diablo Road to Sycamore Valley Road (Segment 1) in Danville and from Crow Canyon Road to Bollinger Canyon Road (Segment 3) in San Ramon	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
94052	Diablo	Committed	I-680 HOV lanes from Marina Vista interchange to North Main Street (southbound) and from Route 242 northbound to the Marina Vista interchange	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94054	Diablo	Committed	Martinez Intermodal Terminal Facility (Phases 1 and 2); includes construction of a new passenger rail station, bus facilities and parking	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94531	Delta	Committed	Widen Route 4 to 6 mixed flow lanes and 2 HOV lanes from Bailey Road to Railroad Avenue with median wide enough to accommodate future BART and restripe from Route 242 to Bailey Avenue for HOV lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94532	Diablo	Committed	Gateway Lamorinda Traffic Program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94538	Delta	Committed	Route 4 transportation management system	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives				FC=Financially Constrained		
				No	Project	FC	+HOT	FC	FC	+Sales Tax	FC	TRANSDEF			
94553	Contra Costa County-wide	Committed	Local streets and roads pavement and non-pavement maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
94556	Contra Costa County-wide	New Commitment	BART (Contra Costa County share) - transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements, equipment, fixed facilities and other capital assets; does not include expansion except BART-to-SFO extension)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
94557	Contra Costa County-wide	New Commitment	AC Transit (Contra Costa County) - transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
94558	Contra Costa County-wide	Committed	Central Contra Costa Transit Authority (CCCTA) - transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
96022	Delta	Committed	Route 4 Bypass, Segment 1: construct a 6-lane facility from Route 4 to Laurel Road and a 4-lane facility from Laurel Road interchange to Lone Tree Way, and add interchanges at Laurel Road and Lone Tree Way	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
98104	Delta	Committed	Widen Route 4 from Railroad Avenue to Liveridge: interchange improvements and highway widening to 6 mixed flow lanes and 2 HOV lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
98115	Delta	Committed	Widen Ygnacio Valley/Kirker Pass Roads from 4 lanes to 6 lanes from Michigan Boulevard to Cowell Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
98126	Diablo	New Commitment	Non-capacity-increasing improvements to interchanges and parallel arterials to I-680 and Route 24	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
98127	Diablo	Committed	I-680/Alcosta Boulevard interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)	Alternatives				FC=Financially Constrained	
					No Project	FC +HOT	FC +Sales Tax	FC TRANSDEF	Smart Growth	
98130	Diablo	New Commitment	Widen Alhambra Avenue from Route 4 to McAlvey Drive from 2 lanes to 4 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
98132	Diablo	Committed	Widen and extend Bollinger Canyon Road to 6 lanes from Alcosta Boulevard to Dougherty Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
98133	Diablo	New Commitment	Widen Pacheco Boulevard from Blum Road to Arthur Road from 2 lanes to 4 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98134	Diablo	Committed	Widen Dougherty Road to 6 lanes from Red Willow to Contra Costa County line	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
98135	Diablo	Committed	Construct Windermere Parkway: 4 lanes from Bollinger Canyon Road extension to East Branch	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
98136	Diablo	Committed	Construct East Branch as 4 lanes from Bollinger Canyon Road extension to Camino Tassajara	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
98142	Delta	Committed	Widen Route 4 from 4 lanes to 8 lanes with HOV lanes from Loveridge Road to Somersville Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
98157	Eastshore-North	New Commitment	Enhancements to AC Transit bus service for the San Pablo corridor in Contra Costa County	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98193	Delta	Committed	Extend Panoramic Drive from North Concord BART Station to Willow Pass Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98194	Diablo	New Commitment	Extend Commerce Avenue between Pine Creek and Waterworld Parkway to connect Willow Pass Road with Route 242/Concord Avenue interchange	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
98196	Diablo	New Commitment	Route 24 eastbound auxiliary lanes from Gateway Boulevard to Brookwood Road/Moraga Way	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
98197	Eastshore North	Committed	Richmond intermodal transfer station (station building)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID			Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)			Alternatives				FC=Financially Constrained	
						No Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF Smart Growth		
98198	Delta	New Commitment	Vasco Road safety and operational improvements in Contra Costa and Alameda counties	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
98211	Eastshore North	Committed	I-80 eastbound HOV lane extension from Route 4 to the Crockett interchange just south of the Carquinez Bridge	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
98221	Delta	Committed	Route 4 Bypass, Segment 2, Phase2: widen to 4 lanes from Lone Tree Way to Balfour Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
98222	Delta	New Commitment	Route 4 Bypass, Segment 1: Route 160 freeway-to-freeway connectors to and from the north	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
98999	Delta	New Commitment	Widen Route 4 eastbound from 4 lanes to 8 lanes from Somersville Road to Route 160	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Marin														
21030	Golden Gate	Vision Element	I-580/US 101 interchange improvements and new freeway-to-freeway connectors from westbound I-580 to northbound and southbound US 101	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21301	Marin County-wide	Vision Element	Golden Gate Transit capital program shortfall	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21302	Marin Countywide	New Commitment	Bicycle and pedestrian projects	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21303	Golden Gate	New Commitment	Local Marin bus service enhancements (capital only)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21306	Golden Gate	New Commitment	US 101/Lucas Valley Road interchange improvements (initial phase)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21308	Golden Gate	New Commitment	Expand Manzanita park-and-ride lot	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21315	Golden Gate	Vision Element	US 101/Miller Creek Road interchange improvements in Marinwood: signalize ramp intersections	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21317	Golden Gate	Vision Element	Widen Route 1 from US 101 to Flamingo Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

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				No Project	FC +HOT	FC +Sales Tax	FC TRANS	DEF Smart Growth						
21325	Golden Gate	Committed	US 101/Greenbrae interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				<input checked="" type="checkbox"/>		<input type="checkbox"/>
21326	Golden Gate	Vision Element	US 101/Tiburon Boulevard interchange improvements (remaining phases)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>		<input type="checkbox"/>
21329	Golden Gate	Vision Element	Expand Manzanita park-and-ride lot (remaining phases)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>		<input type="checkbox"/>
21330	Marin Countywide	Vision Element	Bicycle and pedestrian projects	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
21331	Golden Gate	Vision Element	Local Marin bus service enhancements (capital only) (remaining phases)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
21334	Golden Gate	Vision Element	US 101/Lucas Valley Road interchange improvements (remaining phases)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>		<input type="checkbox"/>
21865	Marin Countywide	Committed	Local bridge maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
21888	Golden Gate	Committed	Construct flyover from Sanitary Landfill Road east of US 101 to southbound US 101	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22146	Golden Gate	Committed	Construct Class I bicycle path between Larkspur and Central San Rafael; includes rehabilitation of Cal Park Hill Tunnel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22157	Golden Gate	New Commitment	Park-and-ride lots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22159	Golden Gate	New Commitment	Marin County US 101 northbound ramp meter, TOS, fiber optic cable project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22160	Golden Gate	New Commitment	Marin County US 101 southbound and I-580 ramp meter, TOS fiber optic cable project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22405	Marin Countywide	Vision Element	Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22419	Golden Gate	Vision Element	Widen US 101 for HOV lanes in both directions from Lucky Drive to North San Pedro Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Alternatives							FC=Financially Constrained
				Transportation 2030 Plan (Proposed Project)	No Project	FC	+HOT	FC	+Sales Tax	FC	TRANSEDEF Smart Growth
22429	Golden Gate	Vision Element	US 101/Manuel Freitas Parkway interchange improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22430	Golden Gate	Vision Element	Kerner Boulevard/Francisco Boulevard East/Andersen Drive underpass connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22436	Golden Gate	Vision Element	US 101 southbound auxiliary lane from Lincoln to Mission	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22437	Golden Gate	Vision Element	US 101 northbound auxiliary lane at Nave Drive	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22752	Marin Countywide	Vision Element	Seismic retrofit and upgrade (rehabilitation) of local bridges and overpasses shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22753	Golden Gate	Vision Element	Park-and-ride lots for the support of Regional Express Bus service	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22754	Golden Gate	Vision Element	US 101 northbound ramp meter, Traffic Operation System (TOS), fiber optic cable project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22755	Golden Gate	Vision Element	US 101 and I-580 ramp meter, Traffic Operation System (TOS) fiber optic cable project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
94055	Marin County-wide	New Commitment	Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94563	Golden Gate	Committed	Widen US 101 for HOV lanes (one in each direction) from Lucky Drive in Corte Madera to North San Pedro Road in San Rafael	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94572	Marin County-wide	Committed	Golden Gate Transit (Marin County share) - Transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include expansion)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98154	Golden Gate	New Commitment	Widen US 101 from Route 37 to the Sonoma County line from 4 lanes to 6 lanes (including 2 HOV lanes) and convert some highway sections to freeway standards	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Project ID			Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)			Alternatives				FC	TRANSDEF
						No Project	FC	+HOT	FC	+Sales Tax	Smart Growth			
98178	Golden Gate	Committed	US 101/Sir Francis Drake Boulevard improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98179	Golden Gate	New Commitment	US 101/Tiburon Boulevard interchange improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
98511	Marin County-wide	Committed	Local streets and roads pavement and non-pavement maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98525	Marin Countywide	New Commitment	Seismic retrofit and upgrade (rehabilitation) of local bridges and overpasses shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Napa														
21871	Napa County-wide	Committed	Local bridge maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22406	Napa County-wide	Vision Element	Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22417	Napa County-wide	Vision Element	Safe Routes to School bicycle and pedestrian program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22740	Napa Valley	Vision Element	Route 29 safety and operational improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22742	Napa County-wide	Vision Element	Senior and disabled free fares	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22743	Napa Valley	Vision Element	Express bus/pre-rail program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22744	Napa County-wide	Vision Element	Countywide traffic signal coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22745	Napa County-wide	Vision Element	Countywide local roads and streets maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22746	Napa Valley	Vision Element	Widen Route 29/First Street overcrossing to 4 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22747	North Bay East-West	Vision Element	Route 12/Route 29/Route 121 intersection improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22749	Napa County-wide	Vision Element	Safety and congestion relief program on arterials and county roads	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)				Alternatives				FC	FC	TRANSDEF
				No Project	FC	+HOT	+Sales Tax	FC	+Sales Tax	Smart Growth				
22750	Napa County-wide	Vision Element	Transportation project environmental mitigation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
94064	Napa County-wide	New Commitment	Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94070	Napa Countywide	Committed	Transit service center on Soscol Avenue at Jackson Street and operational improvements to existing transit programs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94071	Napa Valley	Committed	Replace Napa River (Maxwell) Bridge and widen from 2 lanes to 4 lanes on Route 121 over the Napa River in the city of Napa	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94073	North Bay East-West	New Commitment	Construct new southbound Route 221 to southbound Route flyover (including auxiliary lane to Route 12/Route 29)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94074	North Bay East-West	New Commitment	Widen Route 12 (Jamieson Canyon) from I-80 in Solano County to Route 29 in Napa County from 2 lanes to 4 lanes (Napa County portion of project)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
94075	North Bay East-West	New Commitment	Route 12/Route 29/Airport interchange construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
94076	Napa Valley	Committed	Trancas intermodal facility adjacent to interchange at Route 29 and Redwood Road/Trancas Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94575	Napa Valley	Committed	Construct grade-separated interchange at Route 29 and Redwood Road/Trancas Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94576	Napa County-wide	Committed	Local streets and roads pavement and non-pavement maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
San Francisco														
21342	San Francisco	New Commitment	Caltrain downtown extension/Transbay Terminal replacement (preliminary engineering/right-of-way acquisition)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21501	San Francisco	New Commitment	Bicycle projects and programs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21502	San Francisco	New Commitment	Pedestrian projects and programs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives			FC=Financially Constrained		
				No Project	FC	+HOT	FC	+Sales Tax	FC	+Sales Tax	FC	TRANSDEF	Smart Growth	
21503	San Francisco County-wide	Committed	Traffic calming program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21504	San Francisco	New Commitment	Traffic signals and signs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21505	San Francisco	New Commitment	Local bridge seismic work	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21506	San Francisco	New Commitment	Advanced Technology and Information Systems (Sfgo)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21507	San Francisco	New Commitment	Transit enhancement program; includes transit system connectivity and accessibility, service gap closures, and expanded service	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21508	San Francisco	New Commitment	Bus Rapid Transit Program (BRT)/Transit Preferential Streets (TPS) Program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21510	San Francisco	New Commitment	Third Street light-rail transit extension to Chinatown, Phase 2 (Central Subway)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21526	San Francisco County-wide	New Commitment	Transit rehabilitation and replacement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21529	San Francisco	New Commitment	New and upgraded streets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21533	San Francisco County-wide	Committed	Street tree program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21535	San Francisco County-wide	New Commitment	Travel Demand Management (TDM)/Transportation Land Use Coordination	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21544	San Francisco	Vision Element	Balboa Park BART Station expansion	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21548	San Francisco	New Commitment	Non-Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21549	Peninsula	Committed	Construct access route linking Hunters Point Shipyard Redevelopment Area to US 101 (involves environmental study, design and right-of-way acquisition)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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						No Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF	Smart Growth	FC	+Sales Tax	FC	TRANSDEF	Smart Growth
21866	San Francisco	County-wide	Committed	Local bridge maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22008	San Francisco		Vision Element	Caltrain Downtown Extension/TransBay Terminal Replacement (construction phase)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22248	San Francisco	County-wide	Committed	Wheelchair curb ramps	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22249	San Francisco	County-wide	Committed	New and upgraded streets program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22255	San Francisco	County-wide	Committed	Construct Illinois Street Intermodal Bridge across Islais Creek to connect to Port of San Francisco's Pier 80 cargo terminal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22407	San Francisco	County-wide	Vision Element	Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
22412	San Francisco	County-wide	Committed	Additional light rail vehicles (LRVs) to expand MUNI rail service	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22415	San Francisco	Countywide	Committed	Expand historic streetcar service (sales tax project)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22416	San Francisco		New Commitment	Traffic calming	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22420	San Francisco	Countywide	Committed	Bus Rapid Transit (BRT)/Transit Preferential Streets (TPS) (sales tax project)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22426	San Francisco	County-wide	New Commitment	Islais Creek maintenance facility	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22456	San Francisco		Vision Element	Integrated Transportation Management System (SFgo)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22460	San Francisco		Vision Element	Traffic calming program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22461	San Francisco		Vision Element	Traffic Signals and Signs Program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22462	San Francisco		Vision Element	Bicycle projects and programs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22463	San Francisco		Vision Element	Pedestrian projects and programs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Project ID	Corridor	Investment Type	Project Description	Alternatives					FC=Financially Constrained	
				Transportation 2030 Plan (Proposed Project)	No Project	FC +HOT	FC	FC +Sales Tax	TRANSDEF	Smart Growth
22464	San Francisco	Vision Element	Local bridge seismic work	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22465	San Francisco	Vision Element	Transit Enhancements Program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22466	San Francisco County-wide	Vision Element	Wheelchair Curb Ramps Program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22467	San Francisco County-wide	Vision Element	Travel Demand Management (TDM) and planning for transit, bicycle and pedestrians (includes funding match for Transportation for Livable Communities/Housing Incentive Programs)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22468	San Francisco County-wide	Vision Element	Transit rehabilitation and replacement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22470	San Francisco	Vision Element	New and upgraded local streets and roads	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22471	San Francisco	Vision Element	Bus Rapid Transit (BRT)/Transit Preferential Streets (TPS) program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22481	San Francisco County-wide	Committed	Caltrain (San Francisco County share) transit operating and capital improvement program (including replacement, rehabilitation and system enhancements for rolling stock, equipment, fixed facilities and other capital assets). Station Improvements (e.g., platforms) are included.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22482	San Francisco County-wide	New Commitment	Golden Gate Transit (San Francisco County share) - Transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include expansion)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22484	San Francisco County-wide	Vision Element	Caltrain (San Francisco County share) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22485	San Francisco County-wide	Vision Element	San Francisco Municipal Railway (MUNI) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)	Alternatives					FC +HOT	FC +Sales Tax	FC TRANSDEF Smart Growth
					No Project	FC	FC	FC	FC			
22512	Transbay Bay Bridge	Vision Element	Treasure Island to San Francisco ferry service	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22514	San Francisco County-wide	Committed	Integrated Traffic Management System (SFgo)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22533	San Francisco County-wide	Vision Element	Golden Gate Transit (San Francisco County share) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22982	San Francisco County-wide	Committed	Transit enhancements program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22984	San Francisco County-wide	New Commitment	Wheelchair curb ramps	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
94078	San Francisco	New Commitment	Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94079	San Francisco County-wide	Vision Element	BART (San Francisco County share) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
94089	Golden Gate	New Commitment	Reconstruct Doyle Drive from Golden Gate Bridge toll plaza to Broderik Street (includes Route I/US 101 interchange improvements)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94090	San Francisco County-wide	Committed	Bicycle and pedestrian program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94624	San Francisco Countywide	Committed	Traffic signals and signs program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94625	San Francisco Countywide	Committed	Upgrade Bernal Heights streets to accommodate emergency vehicle access	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94627	San Francisco County-wide	Committed	Local streets and roads pavement and non-pavement maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94632	San Francisco Countywide	Committed	Third Street Light Rail project: light rail transit extension to Bayview Hunters Point (Phase I, initial operating segment)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Alternatives					FC=Financially Constrained	
				Transportation 2030 Plan (Proposed Project)	No Project	FC	+HOT	FC	+Sales Tax	TRANSDEF Smart Growth
94635	San Francisco County-wide	New Commitment	BART (San Francisco County share) - transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements, equipment, fixed facilities and other capital assets; does not include expansion except BART-to-SFO extension)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94636	San Francisco County-wide	Committed	San Francisco Municipal Railway (MUNI) - transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94637	San Francisco Countywide	Committed	Paratransit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94639	San Francisco Countywide	Committed	Travel Demand Management (TDM) Program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98102	Golden Gate	Committed	South Access to the Golden Gate Bridge: Doyle Drive environmental study	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98593	San Francisco Countywide	Committed	Integrated Transportation Management System (SFgo) Initial Phase	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98630	San Francisco Countywide	Committed	BART Advanced Automatic Train Control System (county share)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
San Mateo										
21349	Peninsula	Committed	US 101/Ralston Avenue interchange improvement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21602	Peninsula	New Commitment	US 101/Broadway interchange reconstruction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21603	Peninsula	New Commitment	US 101/Woodside Road interchange improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21604	Peninsula	Vision Element	US 101 auxiliary lanes from Sierra Point to San Francisco County line	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives			FC=Financially Constrained		
				No	Project	FC	+HOT	FC	FC	+Sales Tax	FC	TRANSDEF	Smart Growth	
21605	Peninsula	Committed	US 101/Oyster Point Boulevard interchange improvements (Phases 2 and 3)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21606	Peninsula	Committed	US 101/ Willow Road interchange reconstruction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21607	Peninsula	Committed	US 101/University Avenue interchange reconstruction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21608	Peninsula	Committed	US 101 northbound and southbound auxiliary lanes from Mars Road to Santa Clara County line	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21609	Peninsula	Vision Element	I-280/I-380 local access improvements from Sneath Lane and San Bruno Avenue to I-380	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21610	Peninsula	Vision Element	US 101 auxiliary lanes from San Bruno Avenue to Grand Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21612	Peninsula	New Commitment	Improvement of Dumbarton Bridge access to US 101 (Phase I)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21613	Peninsula	New Commitment	Route 92 improvements from San Mateo Bridge to I-280, includes uphill passing lane from US 101 to I-280 (Phase I)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21615	Peninsula	New Commitment	I-280/Route 1 interchange safety improvements (initial phase)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21617	Peninsula	Committed	Caltrain Express service between San Francisco and San Jose; includes passing tracks and rolling stock (Phase I)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21618	Transbay San Mateo-Hayward and Dumbarton Bridges	New Commitment	Dumbarton rail corridor (Phase I) - Res. 3434 project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21623	Peninsula	Committed	Caltrain local station improvements in San Mateo County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21624	San Mateo County-wide	New Commitment	Transit-Oriented Development Incentives Program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21626	Peninsula	Committed	Caltrain grade separation program (San Mateo County)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21630	San Mateo County-wide	Committed	Continuation of SamTrans express service	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives			FC	TRANSDEF
				No	Project	FC	+HOT	+Sales Tax	FC	+Sales Tax	Smart Growth		
21867	San Mateo County-wide	Committed	Local bridge maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21876	San Mateo County-wide	New Commitment	BART (San Mateo County share) - transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements, equipment, fixed facilities and other capital assets; does not include expansion except BART to SFO extension)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21892	Peninsula	Vision Element	Widen Route 84 from 4 lanes to 6 lanes from El Camino Real to Broadway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21893	Peninsula	Vision Element	Route 92 between Half Moon Bay city limits and Pillarcitos Creek alignment and shoulder improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22120	Transbay San Mateo-Hayward and Dumbarton Bridges	Vision Element	Ferry service from Redwood City to San Francisco to Alameda	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22125	Peninsula	New Commitment	Ferry service from South San Francisco to San Francisco	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22223	Peninsula	New Commitment	Study of US 101/Peninsula Avenue southbound ramps	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22224	Peninsula	Vision Element	Caltrain and California High Speed Rail grade separations and station in Atherton	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22226	Peninsula	New Commitment	Intermodal transit improvements at Caltrain Bayshore station, includes cross platform transfers with 3rd Street LRT and improved bus connections (Phase 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22227	Peninsula	Vision Element	Extend Geneva Avenue from Bayshore Boulevard to US 101/Harney ramps from 4 lanes to 6 lanes (includes grade separation with Caltrain tracks and Tunnel Avenue)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22228	Peninsula	Vision Element	Extend Lagoon Way to connect to US 101, Bayshore Boulevard and Guadalupe Canyon Parkway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22229	Peninsula	Vision Element	US 101/Sierra Point Parkway interchange replacement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives			FC=Financially Constrained		
				No	Project	FC	+HOT	FC	FC	+Sales Tax	FC	TRANSDEF	Smart Growth	
22230	Peninsula	New Commitment	Study of I-280 auxiliary lanes from I-380 to Hickey Boulevard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22231	Peninsula	Vision Element	Widen north side of John Daly Boulevard/I-280 overcrossing for additional westbound traffic lane and dedicated right-turn lane for southbound I-280 off-ramp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22232	Peninsula	Vision Element	Construct streetscape improvements on Mission Street from San Pedro Road to John Daly Boulevard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22236	Peninsula	New Commitment	Study of Hillsdale Transit Center relocation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22239	Peninsula	New Commitment	Study of Manor Drive/Route 1 overcrossing widening and improvement project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22261	Peninsula	New Commitment	Route 1/San Pedro Creek Bridge replacement project (Initial Phase)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22262	Peninsula	New Commitment	US 101 North and Route 92 ramp metering, Traffic Operations System (TOS) and fiber communications project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22264	Peninsula	New Commitment	I-280 North and I-380 ramp metering, Traffic Operations System (TOS), fiber communications project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22265	Peninsula	New Commitment	I-280 South and Route 92 ramp metering, Traffic Operations System (TOS) and fiber communications project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22267	Peninsula	Vision Element	Union Pacific Railroad right-of-way acquisition for transit, bicycle and pedestrian use	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22268	San Mateo County-wide	New Commitment	Countywide shuttle service programs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22271	Peninsula	Vision Element	Widen Skyline Boulevard (Route 35) to 4-lane roadway from I-280 to Sneath Lane	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22273	Peninsula	Vision Element	US 101/Candlestick interchange reconstruction (Phase 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives			FC	FC +HOT	FC +Sales Tax	TRANSDEF Smart Growth
				Intelligent Transportation System (ITS) improvements in San Mateo County	No Project	FC	FC +HOT	FC +Sales Tax							
22274	San Mateo County-wide	New Commitment	Intelligent Transportation System (ITS) improvements in San Mateo County	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22279	Peninsula	Vision Element	US 101/Produce Avenue interchange project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
22282	Peninsula	New Commitment	Widen US 101 southbound by adding 5th lane from westbound Route 92 loop on-ramp to Ralston Avenue off-ramp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
22408	San Mateo County-wide	Vision Element	Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
22424	San Mateo County-wide	New Commitment	BART Advanced Automatic Train Control (AATC) Phase V - Daly City to Millbrae/SFO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
22486	San Mateo County-wide	Vision Element	Caltrain (San Mateo County share) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
22534	San Mateo County-wide	Vision Element	BART (San Mateo County share) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
22615	Transbay San Mateo-Hayward and Dumbarton Bridges	Vision Element	Dumbarton Rail Corridor and station improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
22622	Peninsula	Vision Element	Manor Drive/Route 1 overcrossing widening and improvement project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
22719	Transbay San Mateo-Hayward and Dumbarton Bridges	Vision Element	Dumbarton rail corridor (Phase 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
22720	Peninsula	New Commitment	Caltrain grade separation program (San Mateo County)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22722	Peninsula	Vision Element	Caltrain grade separation program in San Mateo County	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22723	Peninsula	Vision Element	Improvement of Dumbarton Bridge access to US 101 (Phase 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
22724	Peninsula	Vision Element	Improve Route 92 from San Mateo Bridge to I-280 (Phase 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Alternatives						FC=Financially Constrained
				Transportation 2030 Plan (Proposed Project)	No Project	FC +HOT	FC +Sales Tax	TRANSDEF Smart Growth		
22725	Peninsula	Vision Element	I-280/Route 1 interchange improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22726	Peninsula	Vision Element	South San Francisco to Alameda ferry service	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22727	Peninsula	Vision Element	US 101/Peninsula Avenue southbound ramps	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22728	Peninsula	Vision Element	Bayshore intermodal facility: cross platform transfers with 3rd Street LRT at Caltrain Bayshore station and improve bus connection (Phase 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22729	Peninsula	Vision Element	I-280 auxiliary lanes from I-380 to Hickey Boulevard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22732	Peninsula	Vision Element	Hillsdale Transit Center relocation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22735	Peninsula	Vision Element	I-280 North and I-380 ramp metering/Traffic Operating System (TOS)/fiber communications project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22736	Peninsula	Vision Element	I-280 South and Route 92 ramp metering/Traffic Operating System (TOS)/fiber communications project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22737	San Mateo County-wide	Vision Element	Countywide shuttle service programs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22738	San Mateo County-wide	Vision Element	Intelligent Transportation System (ITS) improvements in San Mateo County	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22739	Peninsula	Vision Element	US 101 operational improvements near Route 92	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22741	Peninsula	Vision Element	Caltrain express tracks (Phase 2) (San Mateo County share)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22751	Peninsula	Vision Element	Route 1 operational and safety improvements in Half Moon Bay area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22756	Peninsula	New Commitment	US 101/Candlestick interchange reconstruction (Phase 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22900	Peninsula	New Commitment	Caltrain local station capital improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

				Alternatives					FC=Financially Constrained	
Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)			No Project			TRANSDEF Smart Growth
				FC	+HOT	+Sales Tax	FC	+HOT	+Sales Tax	
98203	Peninsula	New Commitment	Study of Route 1 in Half Moon Bay area operational and safety improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98204	Peninsula	Committed	Construct Route 1 northbound and southbound lanes from Fassler Avenue to Westport Drive in Pacifica	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Santa Clara										
20001	Silicon Valley	Committed	US 101/Bailey Avenue interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
20002	Silicon Valley	New Commitment	Route 85 noise mitigation between I-280 and Route 87	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21558	Silicon Valley	Committed	Foothill Expressway traffic and signal operational improvements from Edith Avenue to El Monte Avenue, and at Grant Avenue/St. Joseph Avenue intersection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21702	Silicon Valley	Vision Element	US 101/Buena Vista Avenue interchange construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21703	Silicon Valley	Committed	I-880/Coleman Avenue interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21704	Silicon Valley	Vision Element	Improve I-280 downtown access between 3rd Street and 7th Street	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21705	Silicon Valley	New Commitment	Route 237/El Camino Real/Grant Road intersection improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21708	Silicon Valley	Vision Element	Add I-280 northbound braided ramps between Foothill Expressway and Route 85	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21713	Silicon Valley	New Commitment	Construct auxiliary lane on eastbound Route 237 from North First Street to Zanker Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21714	Silicon Valley	New Commitment	Widen US 101 between Monterey Highway and Route 25 (includes an extension to Santa Teresa Boulevard) and construct a full interchange at US 101/Route 25/Santa Teresa Boulevard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Project ID		Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)			Alternatives				FC=Financially Constrained	
					No Project	FC	+HOT	FC	+Sales Tax	TRANSDEF Smart Growth			
21715	Silicon Valley	Committed	Route 152/Route 156 interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21716	Silicon Valley	New Commitment	Widen Route 237 from 4 lanes to 6 lanes for HOV lanes between Route 85 and east of Mathilda Avenue	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21717	Silicon Valley	New Commitment	Widen Route 25 from US 101 to Route 156 from 2 lanes to 6 lanes (includes new interchange at Route 156)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21718	Silicon Valley	New Commitment	Route 85 northbound and southbound auxiliary lanes between Homestead Avenue and Fremont Avenue	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21719	Silicon Valley	New Commitment	I-880/I-280/Stevens Creek Boulevard interchange improvement: (Phase I)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21720	Silicon Valley	New Commitment	US 101/Tennant Avenue interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21722	Silicon Valley	New Commitment	US 101 southbound Trimble Road/De La Cruz Boulevard/Central Expressway interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21723	Silicon Valley	New Commitment	US 101/Tully Road interchange modifications	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21724	Silicon Valley	New Commitment	Widen US 101 for northbound and southbound auxiliary lane from Trimble Road to Montague Expressway	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21727	Silicon Valley	Committed	Route 87/US 101 ramp connection to Trimble Road interchange	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
21729	Silicon Valley	Committed	Mary Avenue bicycle and pedestrian overcrossing at I-280	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21730	Silicon Valley	Committed	Los Gatos Creek Trail from Lincoln Avenue to Auzerais	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21731	Silicon Valley	Committed	Los Gatos Creek Trail from San Fernando Street to San Carlos Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21733	Silicon Valley	Committed	Uvas Creek Class 1 Trail connection to Gilroy Sports Park (Phases 1 and 2 from Thomas Road Bridge to Gilroy Sports Park)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

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				No Project	FC	FC +HOT	FC +Sales Tax	FC TRANSDEF	FC=Financially Constrained			
21735	Silicon Valley	Committed	San Tomas Aquino Creek Trail (Route 237 to Santa Clara city limits)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21737	Silicon Valley	Committed	Borregas Avenue bicycle and pedestrian overcrossings at US 101 and Route 237	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21738	Silicon Valley	Committed	West Little Llagas Creek bicycle and pedestrian pathway from Spring Road to Watsonville Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21739	Silicon Valley	Committed	Union Pacific bicycle and pedestrian overcrossing from Gibraltar Court to Montague Expressway	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21741	Silicon Valley	Committed	Bicycle and pedestrian improvements on Hamilton Avenue from Salmar to Creekside (Route 17)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21742	Silicon Valley	Committed	River Oaks Parkway bike and pedestrian bridge at Guadalupe River	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21743	Silicon Valley	Committed	Bicycle improvements on Almaden Expressway between Ironwood Drive and Foxworthy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21744	Silicon Valley	New Commitment	Bike and pedestrian overcrossing at Caltrain railroad tracks near Brokaw Road	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21745	Silicon Valley	Committed	De Anza Trail (Reach 3)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21746	Silicon Valley	Committed	Cox Avenue/Southern Pacific railroad intersection improvements; includes improvements to grade crossings and bicycle paths	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21747	Silicon Valley	Vision Element	California Avenue bicycle and pedestrian undercrossing at Caltrain station	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21749	Silicon Valley	New Commitment	Extend Butterfield Boulevard from Tennant Avenue to Watsonville Road	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Alternatives					FC=Financially Constrained		
				Transportation 2030 Plan							
				(Proposed Project)							
				No Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF	Smart Growth
21750	Santa Clara Countywide	Committed	VTA Landscape Restoration and Graffiti Removal Program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21754	Santa Clara Countywide	New Commitment	VTA Soundwall Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21760	Silicon Valley	Committed	Double-track segments of the Caltrain line between San Jose and Gilroy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21768	Peninsula	Committed	Caltrain local station improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21770	Silicon Valley	Vision Element	Extend Caltrain from Gilroy to Salinas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21785	Silicon Valley	Committed	US 101/Blossom Hill Road interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21786	Silicon Valley	Committed	US 101/Hellyer Avenue interchange modifications	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21787	Silicon Valley	Committed	Palo Alto Intermodal Transit Center (Phase I)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21794	Silicon Valley	Committed	Bus Rapid Transit corridor: El Camino Real (Line 22) (Phase I and 2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21797	Silicon Valley	Committed	Route 17 bus service improvements between downtown San Jose and downtown Santa Cruz	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21831	Silicon Valley	Committed	Montague Expressway level-of-service improvements from US 101 to North First Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21832	Silicon Valley	Committed	Central Expressway level-of-service improvements from Bowers Avenue to De la Cruz Boulevard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21833	Silicon Valley	Committed	Almaden Expressway level-of-service improvements from Blossom Hill Road to Branham Lane	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21836	Silicon Valley	New Commitment	San Tomas Expressway at Hamilton Avenue level-of-service improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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				No	Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF	Smart Growth	
21837	Silicon Valley	Committed	Capitol Expressway level-of-service improvements at McLaughlin Avenue	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21838	Silicon Valley	Committed	Foothill Expressway level-of-service improvements at various locations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21868	Santa Clara County-wide	Committed	Local bridge maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
21921	Fremont-South Bay	Committed	BART extension into Santa Clara County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21922	Silicon Valley	Committed	San Jose International Airport connections to Guadalupe Light Rail Transit (LRT)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21923	Silicon Valley	Committed	New Bus Rapid Transit Corridor: Stevens Creek Boulevard, El Camino Phase IIIB and Monterey Highway	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22010	Silicon Valley	New Commitment	Construct I-280 northbound second exit lane to Foothill Expressway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22012	Silicon Valley	New Commitment	Route 237 eastbound auxiliary lane improvement from North First Street to Zanker Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22014	Silicon Valley	Committed	Downtown East Valley: Santa Clara/Alum Rock and Capitol Expressway to Nieman: Preliminary Engineering and Right of way purchase	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22015	Fremont-South Bay	New Commitment	I-680/I-880 cross connector (environmental and conceptual engineering)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22017	Silicon Valley	Vision Element	Construct Route 237 eastbound to Mathilda Avenue flyover offramp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22018	Silicon Valley	New Commitment	US 101/Mathilda Avenue interchange improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22019	Silicon Valley	Vision Element	Downtown East Valley: Santa Clara/Alum Rock and Capitol Expressway to Nieman: Construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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				No Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF	Smart Growth		
22020	Silicon Valley	Vision Element	US 101 northbound braided ramps between Capitol Expressway and Yerba Buena Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22022	Silicon Valley	New Commitment	Palo Alto Smart Residential Arterials	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
22091	Silicon Valley	Vision Element	Upgrade Route 152 to a limited access 4-lane freeway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22118	Silicon Valley	New Commitment	Extend Hill Road to Peet Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
22121	Silicon Valley	New Commitment	Loyola Drive/Foothill Expressway intersection improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
22127	Silicon Valley	Vision Element	Route 85 northbound and southbound auxiliary lanes from Stevens Creek Boulevard to Saratoga/Sunnyvale Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22128	Silicon Valley	Vision Element	Route 85 northbound and southbound auxiliary lanes from Saratoga/Sunnyvale Road to Saratoga Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22130	Silicon Valley	Vision Element	Route 85 northbound and southbound auxiliary lanes from Saratoga Avenue to Winchester Boulevard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22134	Silicon Valley	New Commitment	Widen US 101 southbound from Stary Road to Yerba Buena Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
22138	Silicon Valley	New Commitment	Widen US 101 to 4 lanes from Route 25 to Santa Clara/San Benito County line	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
22140	Silicon Valley	New Commitment	Widen US 101 between Cochrane Road and Monterey Highway from 6 lanes to 8 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
22142	Silicon Valley	New Commitment	US 101/Capitol Expressway interchange improvements (includes new northbound on-ramp from Yerba Buena Road)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
22145	Silicon Valley	New Commitment	Widen westbound Route 237 on-ramp from Route 237 to northbound US 101 to 2 lanes and add auxiliary lane on northbound US 101 from Route 237 on-ramp to Ellis Street interchange	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives			FC=Financially Constrained	
				No	Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF		
22147	Silicon Valley	Vision Element	US 101 interchange at Zanker Road/Skyport Drive/North Fourth Street (Phase I)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22152	Silicon Valley	New Commitment	Reconstruct Mathilda Avenue bridge over Caltrain tracks and Evelyn Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22153	Silicon Valley	New Commitment	Extend Mary Avenue north across Route 237	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22155	Silicon Valley	Vision Element	Comprehensive sidewalk network for Sunnyvale employment areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22156	Silicon Valley	New Commitment	Route 85 northbound to SR 237 eastbound connector ramp improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22158	Silicon Valley	Vision Element	Route 85 auxiliary lanes between Fremont Avenue and El Camino Real	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22161	Silicon Valley	Vision Element	Route 85 auxiliary lanes between El Camino Real and Route 237, and Route 85/El Camino Real interchange improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22162	Silicon Valley	New Commitment	Route 237 westbound to Route 85 southbound connector ramp improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22164	Silicon Valley	New Commitment	Route 237 westbound on-ramp at Middlefield Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22165	Silicon Valley	Vision Element	US 101 southbound to Route 237 eastbound auxiliary lane improvements (Phase I)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22167	Silicon Valley	Vision Element	US 101 southbound braided ramps between Capitol Expressway and Yerba Buena Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22168	Silicon Valley	New Commitment	Convert one-way streets to two-way streets at various intersections in San Jose	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22169	Silicon Valley	New Commitment	Widen Coleman Avenue from Hedding Street and a future Autumn Street extension from 4 lanes to 6 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Project ID	Corridor	Investment Type	Project Description	Alternatives					FC=Financially Constrained		
				Transportation 2030 Plan (Proposed Project)	No Project	FC	FC +HOT	FC +Sales Tax	FC	TRANSDEF	Smart Growth
22170	Silicon Valley	New Commitment	Construct I-880 overcrossing on Charcot Avenue between Paragon Drive and Old Oakland Road as a reliever route to Montague Expressway and Brokaw Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22171	Silicon Valley	New Commitment	Extend Autumn Street from Julian Street to Coleman Avenue to connect I-880 to west part of downtown San Jose	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22175	Silicon Valley	New Commitment	Widen Almaden Expressway between Coleman Road and Blossom Hill Road to 8 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22176	Silicon Valley	New Commitment	Widen Berryessa Road from I-680 to Commercial Street from 4 lanes to 6 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22177	Silicon Valley	New Commitment	Widen Branham Lane from Vista Park Drive to Snell Avenue from 4 lanes to 6 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22178	Silicon Valley	New Commitment	Replace 4-lane structure with 6-lane bridge on Calaveras Boulevard over Union Pacific Railroad from Abel Street to Milpitas Boulevard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22179	Silicon Valley	New Commitment	Widen Central Expressway between Lawrence Expressway and San Tomas Expressway from 4 lanes to 6 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22180	Silicon Valley	New Commitment	Widen Central Expressway between Lawrence Expressway and Mary Avenue to provide auxiliary acceleration and/or deceleration lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22181	Silicon Valley	New Commitment	Construct 4-lane bridge over Guadalupe River between Almaden Expressway and Fell Avenue to connection sections of Chynoweth Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22182	Silicon Valley	New Commitment	Gilman Road/Arroyo Circle traffic signal and intersection improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22183	Silicon Valley	New Commitment	Widen Lucretia Avenue from 2 lanes to 4 lanes from Story Road to Phelan Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives			FC	FC	FC	TRANSDEF
				No	Project	FC	+HOT	+Sales Tax	FC	+HOT	+Sales Tax				
22185	Silicon Valley	New Commitment	Widen Oakland Road from 4 lanes to 6 lanes from US 101 to Montague Expressway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22186	Silicon Valley	New Commitment	Widen San Tomas Expressway between Route 82 and Williams Road to 8 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22187	Silicon Valley	Vision Element	Improve Scott Street pedestrian corridor from I-880 to Meridian Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22246	Silicon Valley	New Commitment	Blossom Hill Road pedestrian overcrossing and improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22409	Santa Clara County-wide	Vision Element	Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22418	Silicon Valley	Vision Element	Junipero Serra Boulevard traffic calming (Phase 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22422	Silicon Valley	New Commitment	Widen Senter Road between Tully Road and Capitol Expressway to 6 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22431	Silicon Valley	Vision Element	Scott Street pedestrian corridor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22480	Santa Clara County-wide	New Commitment	BART (Santa Clara County share) - transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements, equipment, fixed facilities and other capital assets; does not include expansion except BART to SFO extension)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22487	Santa Clara County-wide	Vision Element	BART (Santa Clara County share) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22488	Santa Clara County-wide	Vision Element	Caltrain (Santa Clara County share) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22489	Santa Clara County-wide	Vision Element	VTA operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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					No Project	FC +HOT	FC +Sales Tax	FC	TRANSDEF	Smart Growth	
22649	Silicon Valley	New Commitment	Widen Campbell Avenue Bridge over Los Gatos Creek to accommodate pedestrian and bicycle facilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22800	Fremont-South Bay	Vision Element	BART extension into Santa Clara County (needs operating plan)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22801	Silicon Valley	Committed	Bernardo Avenue pedestrian/bicycle undercrossing at Caltrain tracks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22802	Silicon Valley	Committed	Extend Hetch Hetchy pathway from Los Altos Avenue to El Camino Real	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22803	Silicon Valley	Committed	Bicycle Racks Program	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22804	Silicon Valley	Committed	Feasibility study of Stevens Creek Trail connection between Mountain View and Cupertino	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22805	Fremont-South Bay	New Commitment	Widen Dixon Landing Road from 4 to 6 lanes between North Milpitas Boulevard and I-880	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22806	Fremont-South Bay	New Commitment	Capitol Avenue/Great Mall Parkway grade separation over Montague Expressway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22807	Peninsula	New Commitment	Caltrain local station improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22808	Peninsula	Vision Element	Caltrain grade separation program in Santa Clara County	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
22809	Silicon Valley	New Commitment	DeWitt Avenue/Sunnyside Avenue intersection realignment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22810	Silicon Valley	New Commitment	San Martin Avenue/Monterey Road railroad crossing improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22811	Silicon Valley	New Commitment	Church Avenue/Monterey Highway railroad crossing improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22812	Silicon Valley	New Commitment	Capitol Expressway channelization improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

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				No Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF	Financially Constrained	
22828	Silicon Valley	New Commitment	Dixon Landing Road/North Milpitas Boulevard intersection improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22829	Silicon Valley	New Commitment	Fitzgerald Road/Masten Avenue intersection improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22830	Silicon Valley	New Commitment	Widen First Street/Route 152 to add one eastbound lane from Church Street to Monterey Street	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
22831	Santa Clara County-wide	New Commitment	Install traffic signal interconnect systems in Sunnyvale, Palo Alto, Mountain View and Los Altos	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22832	Silicon Valley	New Commitment	Widen Route 152 from 2 lanes to 4 lanes from Miller Slough to Holsclaw Road (including widen existing structures over Llagas Creek and old Llagas Creek and new traffic signal at Gilroy Foods/WTI Trucking entrance)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22833	Silicon Valley	New Commitment	Route 85/Almaden Expressway interim operational improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22834	Silicon Valley	New Commitment	Widen Route 237 for eastbound auxiliary lane from Mathilda Avenue to Fair Oaks Avenue	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
22835	Silicon Valley	New Commitment	Construct Sunnyvale Caltrain Station overpass/underpass for pedestrians and bicyclists	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22836	Silicon Valley	New Commitment	Widen Quito Road between Saratoga Avenue and Bucknall Road for channelization and pedestrian and bicycle lane improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22837	Silicon Valley	New Commitment	Saratoga Avenue and Saratoga-Sunnyvale Road corridor signalization improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22838	Silicon Valley	New Commitment	Study of Lawrence Expressway/Calver/U-280 interchange improvements (Caltrans Project Study Report)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)			Alternatives			TRANSDEF Smart Growth
				No Project	FC	+HOT	FC	+Sales Tax		
22839	Silicon Valley	New Commitment	Convert HOV lane to mixed-flow lane on Central Expressway between San Tomas and De La Cruz (including removing HOV queue jump lanes at Bowers)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22840	Silicon Valley	New Commitment	Study to reconfigure Route 85/Almaden Expressway interchange (Caltrans Project Study Report/Project Development Study)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22841	Silicon Valley	New Commitment	Los Gatos Creek Trail from San Carlos Street to Guadalupe River	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22842	Silicon Valley	New Commitment	Route 152/Ferguson Road intersection improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22843	Silicon Valley	New Commitment	Widen Lawrence Expressway between Moorpark/Bollinger and south of Calvert from 6 lanes to 8 lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22844	Silicon Valley	New Commitment	Construct right-turn lane from westbound Monroe Street to San Tomas Expressway	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22845	Silicon Valley	New Commitment	Construct US 101 southbound auxiliary lane from Ellis Street to eastbound Route 237	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22846	Silicon Valley	New Commitment	Stevens Creek Trail Reach 4 Central from North Meadow to Dale Neighborhood	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22847	Silicon Valley	New Commitment	Route 9 bike lanes from Saratoga through Monte Sereno to Los Gatos	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22848	Silicon Valley	New Commitment	Develop High Occupancy Toll (HOT) lane demonstration project on one freeway corridor in Santa Clara County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22850	Silicon Valley	New Commitment	Widen Almaden Plaza Way for a fifth lane at the approach of the Route 85/Almaden Plaza Shopping Center/Alameda Expressway intersection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22852	Silicon Valley	New Commitment	Coyote Creek Trail from Hellyer County Park to Anderson Lake County Park	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)				Alternatives			FC=Financially Constrained	
				No	Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF	Smart Growth
22853	Silicon Valley	New Commitment	Alma Bridge replacement feasibility study	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22854	Silicon Valley	New Commitment	I-280/Oregon-Page Mill interchange modification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22855	Silicon Valley	New Commitment	Coyote Creek Trail connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22856	Silicon Valley	New Commitment	Lawrence Expressway-Saratoga Avenue Corridor signal optimization	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22857	Silicon Valley	New Commitment	Widen US 101 for a southbound auxiliary lane from I-880 to McKee Road/Julian Street	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22858	Silicon Valley	New Commitment	Widen Union Avenue from Los Gatos-Almaden Road to Ross Creek from 2 lanes to 4 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22859	Silicon Valley	New Commitment	Berryessa Creek Trail (Reach 3) between Abel Street and Gill Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22860	Silicon Valley	New Commitment	Replace California Avenue undercrossing of Caltrain tracks and Alama Street	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22861	Silicon Valley	New Commitment	Bicycle boulevards and bike lanes network	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22862	Silicon Valley	New Commitment	Alum Rock School District Area traffic-calming elements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22863	Silicon Valley	New Commitment	Borregas Avenue bike lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22864	Silicon Valley	New Commitment	Bollinger Road bike lanes from Anza Boulevard and Lawrence Expressway/Miller Boulevard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22865	Silicon Valley	New Commitment	Coyote Creek trail from Route 237/Bay Trail to Story/Keyes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22866	Silicon Valley	New Commitment	I-280/Lawrence Expressway signal phasing and timing coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)							Alternatives			FC	TRANSDEF
				No Project	FC	+HOT	FC	+Sales Tax	FC	Smart Growth					
22867	Silicon Valley	New Commitment	Rancho Rinconada neighborhood traffic management plan	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22868	Silicon Valley	New Commitment	Park Avenue bicycle and pedestrian enhancements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22869	Silicon Valley	New Commitment	Guadalupe River Trail from Alviso to I-880	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22870	Silicon Valley	New Commitment	Study of Uvas Creek trail extension from Gilroy Sports Park to Gavilan College	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22871	Silicon Valley	New Commitment	Extend 2-lane Uvas Park Drive from Laurel Drive to Wren Avenue	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22872	Silicon Valley	New Commitment	Widen Montague Expressway for HOV lanes between I-880 and I-680 (6 mixed-flow, 2 HOV lanes)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22873	Silicon Valley	New Commitment	Replace Loyola Bridge bicycle/pedestrian crossing over Foothill Expressway	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22874	Silicon Valley	New Commitment	Route 85/Fremont Avenue ramp improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22875	Silicon Valley	New Commitment	Widen Campbell Avenue Bridge over Los Gatos Creek for pedestrians and bicyclists	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22876	Silicon Valley	New Commitment	Convert HOV lanes to mixed flow lanes on Lawrence Expressway from US 101 to Elko	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22877	Silicon Valley	New Commitment	Design and construct bicycle/pedestrian trail along Sunnyvale east drainage trail from JWC Greenway to Tasman Drive	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22878	Silicon Valley	New Commitment	Realign Wildwood Avenue to connect with Lawrence Expressway (includes new traffic signal at Lawrence Expressway/Wildwood Avenue intersection)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
22879	Silicon Valley	New Commitment	US 101 bike/pedestrian overcrossing at Branham Lane	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22880	Silicon Valley	New Commitment	Winchester Boulevard streetscape improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

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				(Proposed Project)	No Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF Smart Growth
22881	Silicon Valley	New Commitment	Construct auxiliary lanes Lawrence Expressway from westbound Route 237 to southbound Lawrence Expressway and from northbound Lawrence Expressway to eastbound Route 237	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22882	Silicon Valley	New Commitment	Bascom Avenue Intelligent Transportation System (ITS) enhancements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22883	Silicon Valley	New Commitment	Modify medians on Lawrence Expressway from De Sota Avenue and St. Lawrence Drive/Lawrence Station Road for limited access	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22884	Silicon Valley	New Commitment	Construct bike lanes on Evelyn Avenue from Sunnyvale Avenue to Reed Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22885	Silicon Valley	New Commitment	Extend Los Gatos Creek Trail on west side from Hamilton Avenue to Campbell Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22886	Silicon Valley	New Commitment	Widen McKean Road shoulders to accommodate bicycle improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22887	Silicon Valley	New Commitment	Widen south side of Moody Road from Elena Road westbound by 1,500 feet to accommodate bicycle and pedestrian improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22888	Silicon Valley	New Commitment	Widen King Road to 4 lanes from Aborn Road and Barbary Lane	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22889	Silicon Valley	New Commitment	Stevens Creek Trail (Reach 4) south from Dale Neighborhood to Mountain View High School	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22890	Silicon Valley	New Commitment	Adobe Creek bike/pedestrian bridge replacement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22891	Silicon Valley	New Commitment	Alamden Expressway pedestrian/bike overcrossing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22892	Silicon Valley	New Commitment	Widen US 101 southbound auxiliary lane from Great America Parkway to Lawrence Expressway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Project ID Corridor		Investment Type	Project Description	Alternatives					FC=Financially Constrained		
				Transportation 2030 Plan (Proposed Project)	No Project	FC	+HOT	FC	+Sales Tax	FC	TRANSEDEF Smart Growth
22893	Silicon Valley	New Commitment	Widen US 101 for a northbound auxiliary lane from McKee/Julian Street to I-880	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22894	Silicon Valley	New Commitment	US 101 Mabury Road/Taylor Street new interchange (environmental and preliminary engineering)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22895	Silicon Valley	New Commitment	San Tomas Expressway/Route 17 interchange operational improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22896	Silicon Valley	New Commitment	Coyote Creek Trail (Reach 1) from North McCarthy Boulevard to South Ranch Drive	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22897	Sunol Gateway	New Commitment	Widen I-680 northbound for an HOV lane from Route 84 to Calaveras Boulevard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22902	Silicon Valley	Committed	Future rail corridors to be determined by Major Investment Studies (MIS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22903	Santa Clara County-wide	New Commitment	Non-Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22904	Silicon Valley	Vision Element	Construct streetscape improvements on North Thirteenth Street	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22905	Silicon Valley	Vision Element	Improve Senter Road between Singleton Avenue and Monterey Highway to accommodate pedestrians and bicyclists	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22906	Silicon Valley	Vision Element	Wolfe Road/Reed Avenue intersection improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22907	Santa Clara County-wide	Vision Element	Sidewalk improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22908	Silicon Valley	Vision Element	Mary Avenue/El Camino Real intersection improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22909	Silicon Valley	Vision Element	Operating costs for transit services including BART and Downtown/East Valley light rail transit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives				FC=Financially Constrained	
				Intelligent Transportation Systems (ITS) improvements on Santa Teresa Boulevard between Day Road and Mesa Road	No Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF	Smart Growth		
22910	Silicon Valley	Vision Element	Intelligent Transportation Systems (ITS) improvements on Santa Teresa Boulevard between Day Road and Mesa Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22911	Silicon Valley	Vision Element	Widen Farrell Avenue Bridge to 2-lane facility	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22912	Silicon Valley	Vision Element	Mary Avenue/Fremont Avenue intersection improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22913	Santa Clara County-wide	Vision Element	Install metal beam guard rails countywide	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22914	Silicon Valley	Vision Element	McKee Road between White Road and Staples Avenue pedestrian and bicycle improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22915	Silicon Valley	Vision Element	Junipero Serra Boulevard shoulder widening	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22916	Silicon Valley	Vision Element	Install Herriman Drive/Saratoga Avenue traffic signal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22917	Silicon Valley	Vision Element	Install Verde Vista Lane/Saratoga-Sunnyvale Road traffic signal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22918	Silicon Valley	Vision Element	Mantelli Drive corridor improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22919	Silicon Valley	Vision Element	Fair Oaks Avenue/Arques Avenue intersection improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22920	Santa Clara County-wide	Vision Element	Pedestrian ramps at various locations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22921	Silicon Valley	Vision Element	Wolfe Road/Kifer Road intersection improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22922	Silicon Valley	Vision Element	Calaveras Road improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22923	Silicon Valley	Vision Element	Burbank area streetlighting project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22924	Santa Clara County-wide	Vision Element	Construct pedestrian ramps countywide	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
22925	Silicon Valley	Vision Element	DeWitt Avenue S-curve realignment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Project ID	Corridor	Investment Type	Project Description	Alternatives					FC=Financially Constrained		
				Transportation 2030 Plan (Proposed Project)			No Project			FC	
				FC	+HOT	FC	FC	+Sales Tax	FC	TRANSDEF	Smart Growth
22926	Silicon Valley	Vision Element	Citywide traffic calming program in Sunnyvale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22927	Silicon Valley	Vision Element	Bicycle boulevard network project: 7 new bicycle boulevards identified in City's Bicycle Transportation Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22928	Silicon Valley	Vision Element	Mitty Avenue/Lawrence Expressway area pedestrian and bicycle improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22929	Silicon Valley	Vision Element	Lyndale School area pedestrian and bicycle improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22930	Silicon Valley	Vision Element	Improve White Road streetscape between Golf Drive and McKee Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22931	Silicon Valley	Vision Element	Pedestrian/bicycle improvements in the Toyon Road area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22932	Silicon Valley	Vision Element	McKean Road and Watsonville Road left-turn pockets and shoulder widening	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22933	Silicon Valley	Vision Element	El Monte Road/I-280 improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22934	Silicon Valley	Vision Element	Mary Avenue bicycle improvements from Fremont Avenue to Maude Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22936	Silicon Valley	Vision Element	Oak Place/Route 9 pedestrian signals	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22937	Silicon Valley	Vision Element	Garden Avenue and Dahl Elementary School area: pedestrian and bicycle improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22938	Santa Clara County-wide	Vision Element	New pavement markers and traffic signs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22939	Silicon Valley	Vision Element	Pedestrian and bicycle improvements on Hyland Avenue between White Road and Kirk Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22940	Santa Clara County-wide	Vision Element	Class II & III bicycle route improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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				Transportation 2030 Plan (Proposed Project)	No Project	FC	+HOT	FC	+Sales Tax	
22941	Silicon Valley	Vision Element	Loyola Corners traffic circulation improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22942	Silicon Valley	Vision Element	Pedestrian and bicycle improvements on Alum Rock Avenue south of Miguelita Creek Bridge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22943	Silicon Valley	Vision Element	Pedestrian improvements on White Road between Alum Rock Avenue and Mabury Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22945	Silicon Valley	Vision Element	Construct Aldercroft Creek Bridge on Old Santa Cruz Highway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22946	Silicon Valley	Vision Element	Martha Street bicycle pedestrian corridor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22948	Silicon Valley	Vision Element	Taylor Street improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22949	Silicon Valley	Vision Element	Sterlin Road/Shoreline Boulevard intersection modification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22957	Silicon Valley	Vision Element	West San Carlos streetscape improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22958	Silicon Valley	Vision Element	US 101 southbound to eastbound Route 237 connector improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22959	Silicon Valley	Vision Element	Construct streetscape improvements on McLaughlin Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22960	Silicon Valley	Vision Element	Widen Almaden Road from Malone Road to Curtner Avenue to accommodate pedestrians	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22961	Silicon Valley	Vision Element	Construct streetscape improvements on Delmas Avenue between Willow Street and I-280	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22962	Silicon Valley	Vision Element	Improve pedestrian access and facilities on Bird Avenue from San Carlos Street to Virginia Street	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22963	Silicon Valley	Vision Element	Mary Avenue/Evelyn Avenue intersection improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22965	Silicon Valley	Vision Element	US 101/Mabury Road/Taylor Street interchange construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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						No Project	FC	+HOT	FC	+Sales Tax	TRANSDEF	Smart Growth		
22966	Silicon Valley	Vision Element	Gifford Avenue streetscape	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22967	Silicon Valley	Vision Element	Sunnyvale-Saratoga Road/Remington Drive intersection improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22968	Silicon Valley	Vision Element	Aborn Road pedestrian improvements at Irwindale Drive	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22969	Silicon Valley	Vision Element	Keyes Street streetscape improvement project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22970	Silicon Valley	Vision Element	Construct streetscape improvements on Mathilda Boulevard from Iowa Avenue to Washington Avenue in downtown Sunnyvale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22971	Silicon Valley	Vision Element	Construct streetscape improvements on West Virginia Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22972	Silicon Valley	Vision Element	Easy Street/Gladys Avenue intersection modification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22973	Silicon Valley	Vision Element	Auzerais Avenue bicycle/pedestrian improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22974	Silicon Valley	Vision Element	Construct year-round bicycle/pedestrian grade-separated crossing of US 101 at San Antonio	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22975	Silicon Valley	Vision Element	Washington Avenue/Mathilda Avenue intersection improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22976	Silicon Valley	Vision Element	Balbach Avenue pedestrian corridor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22979	Silicon Valley	New Commitment	US 101/Zanker Road/Skyport Drive/Fourth Street interchange improvements (environmental and preliminary engineering)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22983	Silicon Valley	Vision Element	US 101/Zanker Road/Skyport Drive/Fourth Street interchange construction (Phase 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22987	Silicon Valley	New Commitment	Java Drive bikeway between Mathilda Avenue and Crossman Avenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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				Transportation 2030 Plan (Proposed Project)	No Project	FC	+HOT	FC	+Sales Tax	
22999	Silicon Valley	Vision Element	Reed Street pedestrian corridor project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
94106	Santa Clara County-wide	New Commitment	Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94117	Silicon Valley	Committed	Transit centers and park-and-ride lots	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94609	Santa Clara County-wide	Committed	Local streets and roads pavement and non-pavement maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94610	Santa Clara Countywide	Committed	VTA - transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets. Does not include system expansion)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94613	Peninsula	Committed	Caltrain (Santa Clara County portion) transit operating and capital improvement program (including replacement, rehabilitation and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
96002	Silicon Valley	Committed	Route 152 safety improvements from Uvas Creek to Route 156 near Gilroy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98103	Silicon Valley	New Commitment	Construct auxiliary lane on northbound Route 17 from Camden Avenue to Hamilton Avenue (including improvements to northbound on-ramp from Camden Avenue)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
98119	Silicon Valley	Committed	Vasona Corridor light rail extension from downtown San Jose to Winchester Boulevard in Campbell	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98121	Silicon Valley	Committed	Increase Caltrain service from San Jose to Gilroy, includes Caltrain corridor facilities and service improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98140	Sunol Gateway	Committed	I-680 Sunol Grade southbound HOV lanes, ramp metering and auxiliary lane from Route 84 to Route 237 (possible value pricing project)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives			FC=Financially Constrained		
				No	Project	FC	+HOT	FC	FC	+Sales Tax	FC	TRANSDEF	Smart Growth	
98175	Silicon Valley	New Commitment	Widen Montague Expressway from 6 lanes to 8 lanes (6 mixed-flow and 2 HOV lanes) from I-680 to US 101	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Solano														
21341	Eastshore-North	Committed	Project development for new Fairfield/Vacaville multi-modal rail station for Capitol Corridor intercity rail service in Solano County (Phase 1)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21348	Eastshore-North	Committed	Install a second span along existing Green Valley Bridge to facilitate four lanes of travel each way and an acceleration/deceleration lane in each direction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21801	Solano County-wide	Vision Element	Vallejo Transit operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21807	Eastshore-North	New Commitment	Widen I-80 from I-680 to Air Base Parkway from 8 lanes to 10 lanes for HOV lanes (includes a braided ramp from I-680 to Suisun Valley Road and improvements to Red Top Road)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21809	Solano County-wide	New Commitment	Match for improvements to local interchanges and arterials	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21823	North Bay East-West	New Commitment	Route 12 from Sacramento River to I-80 (Phase 1) operational and safety improvements (as identified in Route 12 Major Investment Study (MIS))	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21824	North Bay East-West	Vision Element	Route 12 from I-80 to Sacramento Bridge capacity and operational improvements as identified in Route 12 Major Investment Study	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21869	Solano County-wide	Committed	Local bridge maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22410	Solano County-wide	Vision Element	Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22623	Eastshore-North	Committed	Widen Nut Tree overcrossing from 2 lanes to 4 lanes (includes left turn lane and ramp improvements)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Alternatives						
				Transportation 2030 Plan (Proposed Project)	No Project	FC	+HOT	FC	+Sales Tax	TRANSDEF Smart Growth
22624	Eastshore-North	Committed	Construct continuous 4-lane Jepson Parkway from Suisun City to Vacaville	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22625	Eastshore-North	Committed	I-80/North Texas Street interchange improvements (includes relocation of North Texas Street, new connection between Manuel Campos Parkway and existing bridge, new eastbound on- and off-ramps and new bridge)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22626	North Bay East-West	Committed	Route 29/Route 37 interchange improvements (includes new 4-lane freeway on new alignment between Enterprise Street and Diablo Street)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22628	Eastshore-North	Committed	Realign Wilson Avenue from Florida to Route 37 to accommodate pedestrians and bicyclists (Phase 2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22629	Eastshore-North	Committed	New Vallejo Ferry Terminal intermodal facility	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22630	Eastshore-North	Committed	Parkway Boulevard overcrossing of Union Pacific Railroad grade separation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22631	Eastshore-North	Committed	Route 12 westbound (Red Top Road) truck lane	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22632	Eastshore-North	Committed	American Canyon Road overpass at I-80	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22633	Eastshore-North	Committed	Widen Azuar Drive/Cedar Avenue from P Street to Residential Parkway from 2 lanes to 4 lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22634	Eastshore-North	New Commitment	Vacaville intermodal station (400-space parking garage and 200 space surface parking lot)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22700	Eastshore-North	New Commitment	Construct parallel corridor north of I-80 from Red Top Road to Abernathy Road (the western section extends from the railroad crossing on Red Top Road to Business Center Drive)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22701	Eastshore-North	New Commitment	I-80/I-680/Route 12 interchange improvements (includes truck scales and auxiliary lanes) (as identified in I-80/I-680/I-780 Corridor Study)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)					Alternatives			TRANSDEF
				No	FC	FC	FC	FC	FC	FC	FC	
				Project	+HOT	+Sales Tax	Smart Growth					
22702	Eastshore-North	Vision Element	I-80/I-680/Route 12 interchange improvements: truck scales and auxiliary lanes (Phases 3 and 4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22703	Eastshore-North	New Commitment	I-80/I-680/I-780 corridor mid-term capacity and operation improvements except transit hubs and park and ride lots (as identified in I-80/I-680/I-780 Corridor Study)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22708	North Bay East-West	New Commitment	Route 12 from I-80 to Sacramento Bridge long-term capacity and operational improvements (as identified in Route 12 Major Investment Study(MIS))	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22710	Solano County-wide	Vision Element	Non-capacity-increasing safety projects to improve congested intersections, local arterials and highways	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22711	Eastshore-North	Vision Element	Senior/disabled transit capital and operating	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22712	Eastshore-North	Vision Element	Express bus capital and operating	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22716	Eastshore-North	Vision Element	Vallejo Baylink ferry service capital and operation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22717	Eastshore-North	Vision Element	I-80/I-680/I-780 corridor improvements (midterm projects except transit hubs and park-and-ride lots)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22794	Eastshore-North	New Commitment	Curtola Transit Center improvements (construct parking structure, improve off-street bus transfer facilities and improve bus ingress and egress)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22795	Eastshore-North	New Commitment	Fairfield Transportation Center improvements (add 600 parking spaces)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22898	Eastshore-North	New Commitment	Widen I-80 from west of Meridian Road to west of Kidwell Road from 6 lanes to 8 lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22899	North Bay East-West	Committed	Widen Route 12 between Suisun City and Rio Vista from 2 lanes to 4 lanes (includes study of new Rio Vista Bridge)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

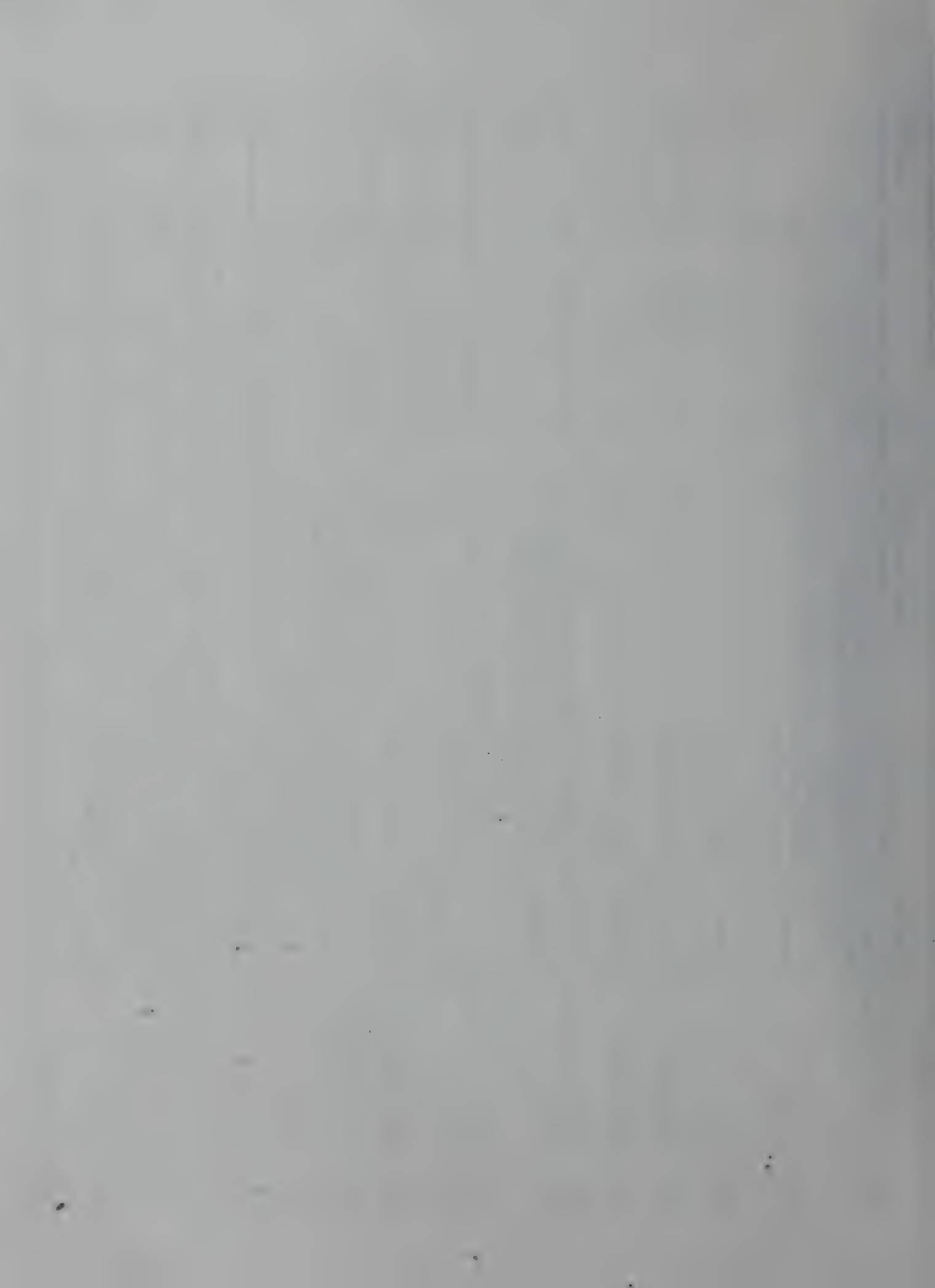
Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)		Alternatives				FC	TRANSDEF
				No Project	Project	FC	+HOT	FC	+Sales Tax		
22985	Eastshore-North	Committed	Benicia Intermodal Transportation Station	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22986	Eastshore-North	Committed	Widen and improve Broadway between Route 37 and Mini Drive from 2 lanes to 4 lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22988	Eastshore-North	Vision Element	Commuter Rail Service - Sacramento to Oakland (capital and operating)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94138	Solano County-wide	New Commitment	Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94139	Solano County-wide	New Commitment	Non-Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement maintenance shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94148	Eastshore-North	New Commitment	Construct rail stations and track improvements for Amtrak Capitol Corridor service from Sacramento to Oakland	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94150	Diablo	Committed	I-80/I-680/Route 12 interchange improvements; includes connectors and auxiliary lanes between Green Valley Road and Cordelia truck weigh station (Phase 1)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94151	Eastshore-North	New Commitment	Construct 4-lane Jepson Parkway from Route 12 to Leisure Town Road	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
94152	North Bay East-West	New Commitment	Widen Route 12 (Jameson Canyon) from I-80 in Solano County to Route 29 in Napa County from 2 lanes to 4 lanes (Solano County portion of project)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
94153	Solano County-wide	New Commitment	Non-capacity increasing safety projects to improve congested intersections, local arterials and highways	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94675	North Bay East-West	Committed	Widen Route 37 from Napa River Bridge to Route 29 from 2-lane expressway to 4-lane freeway (not including Routes 29/37 interchange), planting and environmental mitigation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94681	Solano County-wide	Committed	Local streets and roads pavement and non-pavement maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Alternatives					FC=Financially Constrained		
				Transportation 2030 Plan (Proposed Project)	No Project	FC +HOT	FC +Sales Tax	FC TRANSDEF			
94683	Solano County-wide	New Commitment	Vallejo Transit - transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include system expansion)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
98168	Solano County-wide	New Commitment	Intercity bus service and transit hubs in Solano County (capital costs)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
98212	Solano County-wide	New Commitment	Local bicycle and pedestrian projects	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Sonoma											
21070	North Bay East-West	Committed	Realign Route 116 (Stage Gulch Road) along Champlin Creek and widen remaining segments to accommodate pedestrians and bicyclists	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
21346	Golden Gate	Committed	Widen Route 116 onramp to southbound US 101	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
21870	Sonoma County-wide	Committed	Local bridge maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
21884	Golden Gate	Vision Element	Petaluma cross town connector/interchange	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
21901	Sonoma County-wide	Vision Element	Golden Gate Transit (Sonoma County share) operating and capital program shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>
21902	Golden Gate	New Commitment	Widen US 101 for HOV lanes from Old Redwood Highway to Rohnert Park Expressway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
21998	North Bay East-West	Committed	Rehabilitate and widen Route 116 between Elphick Road to Redwood Drive (involves realignment, new shoulders and channelization improvements)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
22190	North Bay East-West	Vision Element	Hwy 116/Hwy 121 intersection improvements and Arnold Drive improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
22191	Golden Gate	Vision Element	US 101/Airport Boulevard interchange improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)				Alternatives			FC=Financially Constrained		
				No	Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF	Smart Growth	
22192	Sonoma County-wide	Vision Element	Widen Airport Boulevard from 2 lanes to 4 lanes (also includes a center turn lane)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22193	Golden Gate	Vision Element	Construct Forestville bypass on Route 116	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22194	Golden Gate	Vision Element	Mark West Springs Road/Porter Creek Road safety improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22195	Golden Gate	Vision Element	Old Redwood Highway/US 101 interchange improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22197	Golden Gate	Vision Element	Penngrove local road improvements including Railroad Avenue interchange	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22199	Golden Gate	Vision Element	US 101 Traffic Operations System (TOS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22200	Golden Gate	Vision Element	US 101 ramp metering and fiber optic cable in Sonoma County	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22203	Golden Gate	Vision Element	River Road channelization and signals from Fulton Road to the town of Guerneville	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22204	Golden Gate	Vision Element	Widen Fulton Road from Guerneville Road to US 101 from 2 lanes to 4 lanes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22205	Golden Gate	Vision Element	US 101/Hearn Avenue interchange improvements, including widening overcrossing and ramps	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22206	Golden Gate	Vision Element	Construct Route 12/Fulton Road interchange	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22207	Golden Gate	Vision Element	Extend Farmers Lane as a 3-lane or 4-lane arterial from Bellevue Avenue to Route 12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22411	Sonoma County-wide	Vision Element	Non-Metropolitan Transportation Systems (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
22438	Golden Gate	Vision Element	Bodega Highway improvements west of Sebastopol	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Project ID	Corridor	Investment Type	Project Description	Transportation 2030 Plan (Proposed Project)	Alternatives					FC +HOT	FC +Sales Tax	FC TRANSDEF Smart Growth
					No Project	FC	FC	FC	FC			
22439	Sonoma County-wide	Vision Element	Bicycle and pedestrian routes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22440	Sonoma County-wide	Vision Element	Local streets and roads: pothole repair and congestion relief	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22441	Sonoma County-wide	Vision Element	Local bus service (includes express bus, evening service, and transit for seniors and disabled)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22443	Golden Gate	Vision Element	Design, project development, and financing costs for widening US 101	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22490	Sonoma County-wide	Committed	Convert bridges of Sonoma County from one-lane to two-lane bridges	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22639	Golden Gate	Vision Element	US 101/Mill Street interchange in Healdsburg	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22640	Golden Gate	Vision Element	US 101/Shiloh Road interchange in Windsor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22641	Golden Gate	Vision Element	US 101/Baker interchange in Santa Rosa	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22642	Golden Gate	Vision Element	US 101/Dry Creek interchange in Healdsburg	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22643	Golden Gate	Vision Element	US 101/Mendocino Avenue/Hopper Avenue interchange	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22644	Golden Gate	Vision Element	US 101/Bellevue interchange	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22646	Golden Gate	Vision Element	US 101/River Road interchange	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22652	Golden Gate	Committed	Rehabilitate pavement on US 101 from Steele Lane to Grant overhead in Healdsburg	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22655	Golden Gate	Committed	Widen US 101 for HOV lanes (one in each direction) from Rohnert Park Expressway to Santa Rosa Avenue (includes interchange improvements and ramp metering)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22656	Golden Gate	Committed	US 101/East Washington Street interchange improvements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

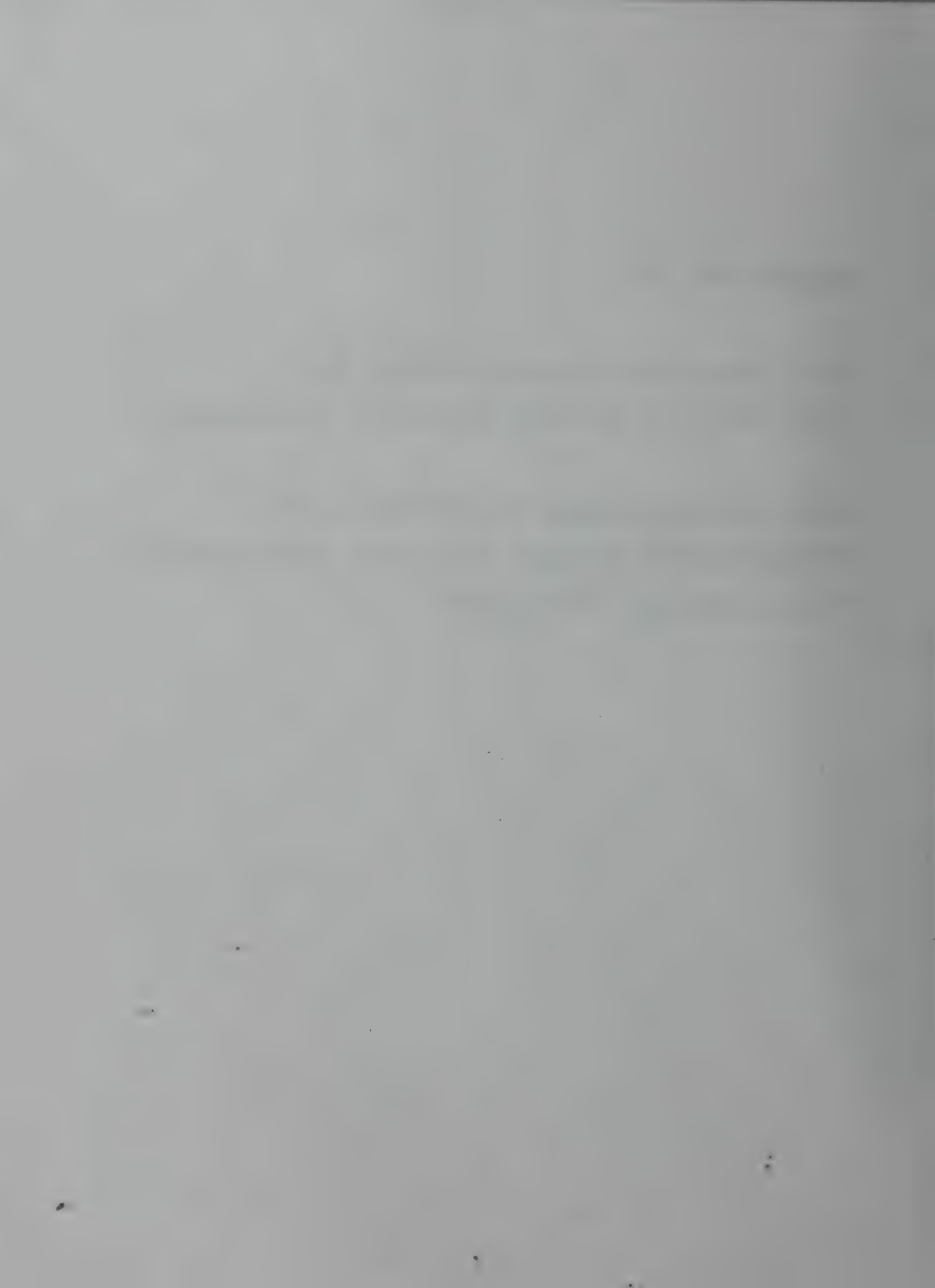
Project ID	Corridor	Investment Type	Project Description	Alternatives						
				FC=Financially Constrained						
				Transportation 2030 Plan (Proposed Project)						
				No Project	FC	+HOT	FC	+Sales Tax	FC	TRANSDEF Smart Growth
94155	Sonoma County-wide	New Commitment	Metropolitan Transportation System (MTS) streets and roads pavement and non-pavement rehabilitation shortfall	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94165	Golden Gate	Committed	US 101 northbound and southbound HOV lanes from Route 1 to Steele Lane in Santa Rosa	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
94689	Golden Gate	Committed	US 101/Arata Lane interchange improvements in Windsor (Phase 2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94691	North Bay East-West	Committed	Route 121 traffic signal system and channelization at 8th Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
94694	Sonoma County-wide	Committed	Local streets and roads pavement and non-pavement maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98147	Golden Gate	New Commitment	Widen US 101 from Route 116 east to the Marin/Sonoma County line from 4 lanes to 6 lanes (including 2 HOV lanes), upgrade Petaluma Bridge, and convert some highway sections to freeway standards	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
98183	Golden Gate	New Commitment	Widen US 101 for HOV lanes between Steele Lane and Windsor River Road	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
98213	Sonoma County-wide	Committed	Bicycle and pedestrian projects	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
98572	Sonoma County-wide	New Commitment	Golden Gate Transit (Sonoma County share) - Transit operating and capital improvement program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include expansion)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



Appendix D:

D.1: Detailed Assumptions for TRANSDEF Smart Growth Alternative

D.2: Comparison of ABAG and TRANSDEF Smart Growth Alternative Projections, 2000-2030



Appendix D.I: TRANSDEF Smart Growth Alternative

This appendix presents detailed information about the alternative supplied by the Transportation Solutions Defense and Education Fund (TRANSDEF), a transportation advocacy organization, as provided for in the Settlement Agreement and Release entered into by TRANSDEF, Citizens for Better Environment (CBE), Bay Area Air Quality Management District, and MTC in March 2004. TRANSDEF has defined an alternative set of land use and transportation planning assumptions aimed at enhancing transit use, biking and walking as preferred transportation modes in the future. This is to be achieved by concentrating new residential development in existing urban areas, implementing pricing strategies to discourage auto use while increasing the attractiveness of transit, biking and walking, and expanding certain aspects of the regional bus and rail transit network in ways TRANSDEF believes would be more cost effective than current proposals.

LAND USE ASSUMPTIONS

TRANSDEF has developed its own set of land use assumptions for this alternative, which are different than those used in the Proposed Project and the other four EIR alternatives. These land use assumptions have not been reviewed by local governments or by the public and are not the current set of land use projections adopted by ABAG (*Projections 2003*).

The TRANSDEF alternative seeks to redistribute growth in the region within existing cities and within the footprint of existing development. In many existing neighborhoods no new development occurs, so they remain as they are in 2000. The TRANSDEF alternative land use scenario is patterned after the Network of Neighborhoods Alternative of the Regional Agencies Smart Growth Strategies/Regional Livability Footprint Project (called "Smart Growth Project" for short), one of three conceptually different land use alternatives that were initially considered. Development is clustered along transit corridors and at transit nodes. Over the next 25 years, this alternative assumes that the increasing value of land will lead to the densification of arterial corridors all around the region.

To enable the TRANSDEF alternative's demographic assumptions to be comparable with the Proposed Project and the other alternatives evaluated in this EIR, total jobs, employed residents, households and household population are the same as the ABAG *Projections 2003* regional totals. However, TRANSDEF reduces the total residential land use by 58,400 acres, from 651,800 acres in *Projections 2003* to 593,400 acres in the TRANSDEF alternative. TRANSDEF reduces the total acres of residential land uses in rural (less than 500 persons square mile), rural/suburban (500 to 1,000 persons per square mile), suburban (1,000 to 10,000 persons per square mile), and urban (10,000 to 20,000 persons per square mile) areas but increases it in the urban core (greater than 20,000 persons per square miles) where generally good transit service is available. In addition, TRANSDEF increased the net residential densities (households per residential land use in square miles) by 9.8 percent, from 3,129 households per square mile in *Projections 2003* to 3,437 households per square mile in the TRANSDEF alternative. A main strategy for accommodating new growth is the redevelopment of low-intensity uses along existing arterial streets served by

buses into mixed-use commercial and housing, particularly multi-family, condominiums, and townhomes. A byproduct of this higher density is a reduced need for households to own multiple autos, which is reflected in MTC's auto ownership forecasts for the TRANSDEF alternative.

To become regional policy, these changes would need to be adopted by ABAG as part of a future socio-economic and land use Projection series and would need to be implemented by local jurisdictions through General Plan and zoning revisions. There are no regulatory mechanisms in place to require local jurisdictions to make such changes. TRANSDEF believes that MTC has a role in accomplishing these land use changes by withholding certain federal and state discretionary funds from local jurisdictions that do not make the necessary revisions to their local plans.

FUNDING ASSUMPTIONS

Committed Funds

Historically, MTC has included all fully funded projects in the financially constrained element of the RTP. This includes projects that are fully funded as a result of legislation or voter action, or are included in MTC's funding priorities for the next three years (i.e., included as part of the 2005 Transportation Improvement Program).

In contrast to MTC's assumptions, TRANSDEF considered the list of committed projects to only include projects currently under construction or projects that are under contract for construction by 2006. Thus, TRANSDEF's set of committed projects is significantly smaller than for the other alternatives. TRANSDEF uses the money assigned to these projects for other projects it has defined.

New Transportation 2030 Commitments

The financially constrained element of the Transportation 2030 plan includes funding for new projects with revenues expected to be available in the future (these projects were known as "Track 1" in previous regional transportation plans but are now referred to as "New Commitments" in this EIR).

TRANSDEF's set of new committed projects is significantly smaller than those included in the Financially Constrained alternative, which will provide the basis for the Transportation 2030 Plan's conformity analysis.

County Transportation Sales Tax Expenditure Plans

TRANSDEF also examined the proposed set of projects in various county transportation sales tax expenditure plans in Contra Costa, Marin, Sonoma, Solano, and San Mateo counties that will be voted on in November 2004. TRANSDEF did not consider these projects to be committed, if approved by the voters. To implement the alternative set of projects proposed by TRANSDEF, a new measure would need to be placed on the ballot to revise the approved set of projects at a future date.

Projects Evaluated

The TRANSDEF alternative includes (1) 170 projects out of a total of 242 projects MTC considers committed; (2) 217 projects out of a total of 344 projects that are not fully funded and rely on future transportation revenues (called "Track 1" projects in past RTPs); and (3) 32 projects out of a total of 92 proposed sales tax projects. In summary, TRANSDEF deleted a total of 261 projects from the Proposed Project. A total of 199 projects were excluded from the financially constrained element, and a total of 62 proposed sales tax projects were excluded from the vision element of the Transportation 2030 Plan. Many of the excluded projects are projects approved by the voters as part of a county transportation sales tax measure and Regional Measures 1 and 2, which raised tolls to \$2 dollars and \$3 dollars, respectively, on Bay bridges to fund bridge improvements and related congestion relief improvements within the bridge corridors. See Table D-1.

Projects added by TRANSDEF include:

Road Projects:

- Construct a connector from westbound I-580 and I-238 to southbound onto Route 238, Foothill Boulevard
- Construct an underpass of Mission by Jackson and Foothill at the Route 238, Route 185 and Route 92 intersections just south of downtown Hayward.
- Widen Route 92 bridge to four lanes eastbound over I-880 to handle the afternoon peak weave of cloverleaf traffic

Transit Projects:

- New Bus Rapid Transit (BRT) for Contra Costa
- New Diesel Multiple Unit (DMU) for the East Contra Costa County (Delta corridor) and Vallejo-Napa
- New San Francisco Muni C-Line BRT
- New Bus Rapid Transit for: Vacaville, Fairfield, Benicia-Vallejo, Santa Rosa-Sebastopol, Cotati-Rohnert Park, Petaluma, Novato, Central Marin, Pacifica-South San Francisco, San Mateo-Foster City, Belmont-Redwood City, Menlo Park-Palo Alto, Livermore, Pleasanton, San Ramon, Oakland Airport, and Cal State Hayward
- New High Speed Rail line using Altamont Pass corridor for entry into the Bay Area

Funding Summary

The budget for the financial constrained element of the proposed Transportation 2030 Plan (Proposed Project) is \$113 billion. The proposed sales tax expenditure plans, which appear in the vision element, have a total value of \$5.7 billion. TRANSDEF excluded 199 Committed and "Track 1" from the financially constrained and 62 proposed sales tax projects from the vision element. This resulted in a surplus of about \$10.4 billion, which would be applied towards the

transit operating and capital costs associated with the new transit service proposed by TRANSDEF. MTC estimates the transit operating and capital costs to be about \$4.2 billion.

Transit Transfer Policies

TRANSDEF sought to eliminate cost as a barrier to riders transferring between transit routes and between transit systems. Instead of charging passengers to transfer using the new universal fare card Translink), TRANSDEF assumes riders do not have to pay to transfer.

PRICING PROGRAMS

TRANSDEF proposes several new transportation pricing policies will be implemented by the appropriate agency with the requisite authority to encourage a shift in travel from single occupant vehicles to transit, ridesharing, or bike/walking:

- \$2.00/day for parking at several high-demand BART stations (implemented by BART).
- Housing developments provide each resident with a monthly transit pass at a reduced rate similar to VTA's Eco Pass program. Residents pay for the eco pass as part of rent or homeowner association fees (implemented by cities as part of their development approval process).
- All employers offer a transit subsidy of \$5 per day in lieu of free parking, typically known as "parking cash out". (implemented by cities through a local ordinance or other regulation). (Note: this was modeled by MTC as a daily cost for employees to park, since the transfer of income from employers to employees cannot be modeled in MTC's travel demand modeling system).

TRANSPORTATION PROJECTS

The TRANSDEF alternative includes a different mix of regional transportation projects and programs than the Proposed Project or other alternatives. Differences in the TRANSDEF alternative, relative to the Proposed Project, are outlined in the following subsections.

HIGHWAY PROJECT SELECTION METHODOLOGY

In general, the TRANSDEF alternative does not invest in major roadway capacity increasing projects (meaning projects with a cost over \$5 million, unless they are already under contract for construction or are being paid for by developer mitigation funds). All safety projects included in the Proposed Project are funded. Ramp metering in the region was also assumed.

TRANSIT PROJECT SELECTION METHODOLOGY

A network of new "Rapid Bus" lines was defined for the region to serve higher density development in corridors along major arterials. Several new light rail services were added to connect various communities. Service on local bus routes is doubled on many lines, and improved passenger amenities, including real time arrival information, are made available for bus passengers throughout the region. These new lines will likely require new sources of operating

funds, which would not be available in under the financially constrained element of the Proposed Project. TRANSDEF assumes that certain funds which are currently available for construction of transit and highway projects, but not for transit operations, will in the future be available for operating new transit services proposed by TRANSDEF.

Rapid Bus

Rapid Bus service is intended to make transit use more attractive by upgrading bus service in heavily traveled arterial corridors. Transit Preferential Streets will speed buses by providing transit priority at traffic signals, queue jumps, optimized bus stops, improved pavement, and exclusive bus lanes where needed. Low floor buses and raised sidewalks may provide one-step or no-step entry and buses will have more doors make loading and unloading faster. Proof-of-payment will also speed up loading of passengers. The Rapid Bus lines would not have park and ride facilities, as they are designed to serve significant activity centers where people are already congregated. Because Rapid Bus is based on limited stop service, underlying local service in many communities would be retained and in some cases improved as well.

In Marin, Golden Gate service would be increased, including 15-minute headways along US 101 between Novato and San Francisco. Rapid Bus lines would run through the cities of Central Marin, and also in Novato. In Sonoma County, Rapid Bus lines would run in Petaluma, Cotati, and Rohnert Park, along with a trunk Rapid Bus service from East Santa Rosa to Sebastopol.

A new Rapid Bus line would connect Mare Island, Vallejo, Benicia, and the Capitol Corridor intercity trains. It would meet the Vallejo-Napa rail service at the relocated ferry terminal at the foot of Lemon Street in Vallejo. Rapid Bus service also would circulate from Capitol Corridor train stations in Fairfield and Vacaville along improved arterials, connecting new infill growth to city centers.

Central Contra Costa County cities would be served by a looping Rapid Bus system, connecting Walnut Creek, Concord, Pleasant Hill and Martinez. All BART stations would be served, along with a major new urban center assumed to be developed on and around the Sun Valley Mall. Smaller community centers are assumed to develop at existing strip malls and along underdeveloped arterials.

In the Tri-Valley area, three new Rapid Bus lines would serve Livermore, Pleasanton, Dublin, and San Ramon. Connections would be made to all BART stations and the new Altamont HSR stations on Isabel Avenue in Livermore and at Vasco Road. All major employment centers would be connected, including Bishop Ranch, Hacienda, and Lawrence Livermore National Labs.

Santa Clara County's existing bus system would be overlaid with a new Rapid Bus network serving the busiest lines. The Great Mall in Milpitas and Eastridge Mall in East San Jose would serve as bookends for a revitalized corridor of homes and businesses.

Like San Jose, San Francisco also would have a new Rapid Bus network overlaid upon its busiest lines. In many places, continuous 24-hour bus lanes would replace existing bus lanes. The Central Subway would be replaced with a new C-Line Rapid Bus, and would combine the three lines that

serve Chinatown and North Beach (30, 41, 45). The new C-Line would operate on exclusive lanes from Mission Bay and the Transbay area through SOMA, downtown, and Chinatown to North Beach. From North Beach, the line would loop over Russian Hill into Cow Hollow and back via the Marina and Fishermen's Wharf. Stockton Street in Chinatown.

In the East Bay, several AC Transit Rapid Bus lines would overlay several of the busiest local lines from Fremont north to Albany, including lines on Hesperian, MacArthur and International Boulevards. Headways would be reduced on a number of lines throughout AC Transit's two county service area. A new Rapid Bus line would link Hayward's BART station to California State University, Hayward, supporting development of a mixed-use corridor and boosting Cal State enrollment.

Rail

The TRANSDEF alternative would not fund any of the currently planned BART extensions to Warm Springs and San Jose/Santa Clara. Modern DMU (Diesel Multiple Unit) service using self propelled cars on conventional rail tracks were selected for certain corridors designated by TRANSDEF for significant growth.

Caltrain was electrified and frequency of service increased to BART levels throughout the day. Caltrain service between San Jose and the Transbay Terminal would include a mix of local trains running every 15 minutes and "Baby Bullets" express trains, running every 30 minutes. San Jose, Redwood City, Millbrae, and the Transbay Terminal in San Francisco also would serve proposed High Speed Rail (HSR) trains (funding for the initial segment would be voted on in a statewide election in 2006).

In the North Bay, the SMART train (which would also use DMU equipment) would link Sonoma and Marin Counties, running from a new ferry terminal at San Quentin to Cloverdale. SMART would replace all trunkline Golden Gate Transit service in Sonoma County.

The Route 29 rail corridor between Vallejo and North Napa would be improved with DMUs on the existing rail line. Trains would start at a relocated Vallejo ferry terminal and serve the communities between Vallejo and Napa. They would go to a terminal on the north side of Napa. The Vallejo-Napa DMUs would connect to the ferry to San Francisco, to deliver tourists to the Napa Valley, where private coaches would circulate between wineries, hotels, and DMU stops.

The Delta cities of Contra Costa County would be tied into the region with a new DMU rail system running between North Concord BART and Brentwood. Development in the eastern part of the county would be focused around this line.

Facilities for Pedestrians, Bicyclists and Persons with Disabilities

The TRANSDEF alternative funds projects that would provide accessible paths of travel for new transit lines and improve paths of travel to existing transit. Making fixed route transit service more accessible for persons with disabilities would limit cost increases associated with providing

complementary ADA paratransit service. Such public works improvements also would enhance the walkability of many neighborhood environs.

High Speed Rail

To move people long distances across the region, the TRANSDEF alternative relies on a few key projects and a redeployment of existing services. The TRANSDEF alternative assumes that a statewide High Speed Rail (HSR) system will be operational within the next 25 years and will enter the Bay Area using the I-580 Altamont Corridor between the San Joaquin Valley. It would replace the existing Altamont Commuter Express trains, tie into BART (via very short extensions) in west Livermore and Fremont, and connect Fremont and San Jose.

Ferries

The Water Transit Authority's proposed ferry routes, which are part of the Proposed Project, would not be included in this alternative, with the exception of new ferry service from San Quentin to the Ferry Building (this would operate on 30-minute headways). Other existing services would remain in place.

Table D-1: Transportation 2030 Plan Projects Excluded from TRANSDEF Smart Growth Alternative

1 = Approved Sales Tax Project, 2 = Regional Measure 1 Project, 3 = Regional Measure 2 Project

Project ID	Project/Program	1	2	3
Committed Projects (Financially Constrained Element)				
Bay Area Region				
22001	SMART Commuter Rail project (environmental, preliminary engineering, and right-of-way) (Resolution 3434)			✓
22003	Capitol Corridor: Phase 2 enhancements –(Resolution 3434)			✓
22006	Downtown Ferry Terminal improvements and spare ferry vessels (Resolution 3434)			✓
22009	Capitol Corridor intercity rail service (track capacity/frequency improvements from Oakland to San Jose designed to allow 16 daily round trips between Oakland and Sacramento/San Jose) (Resolution 3434)			
22241	Regional Measure 2 Studies (includes regional rail study, transit connectivity study, Water Transit Authority (WTA) environmental studies, I-680/Pleasant Hill BART connector study, and Caldecott Tunnel transit ridership study)			✓
22242	Real-Time Transit Grant Program			✓
22243	Regional Measure 2 Express Bus North Improvements (includes park and ride lots and rolling stock)			✓
22244	City Carshare			✓
22245	Safe Routes to Transit			✓
94514	I-880/Route 92 interchange improvements	✓	✓	
Alameda				
21100	I-580/Vasco Road interchange improvements			
21114	Washington/Paseo Padre Parkway Grade Separation	✓		✓
21125	Route 84 westbound HOV lane extension from Newark Boulevard to I-880.			✓
21126	Route 84 westbound HOV on-ramp from Newark Boulevard			✓
21417	Dumbarton Express park-and-ride: 90 spaces on Decoto Road near I-880 by the Dumbarton Bridge (includes right-of-way acquisition)			
21472	I-680/Bernal Avenue interchange improvements			
21473	Construct a 4-lane major arterial connecting Dublin Boulevard and North Canyons Parkway			
21475	I-580/First Street interchange improvements			
21477	I-580/Greenville Road interchange improvements			
21489	I-580/San Ramon Road/Foothill Road interchange improvements			
21492	Extend Scarlett Drive from Dublin Boulevard to Dougherty Road	✓		
21896	Route 84 vertical and horizontal alignment improvements in Fremont (from 3 miles east of I-680 to 5.1 miles east of I-680)			
22240	Regional Measure 2 Express Bus South Improvements (includes park-and-ride lots, HOV access improvements, and rolling stock)			✓
22469	East Dublin BART Station transit village			
22785	Construct I-580 eastbound auxiliary lane from First Street to Vasco Road			
22796	Construct 4-lane arterial connection between future eastern end of Dublin Boulevard in Dublin to North Canyons Parkway in Livermore			
22991	Widen I-680 for southbound High Occupancy Vehicle/High Occupancy Toll (HOV/HOT) lane from Route 237 to Route 84 (includes ramp metering and auxiliary lanes)	✓		
94024	Auto/truck separation lane at I-580/I-205 interchange			

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Project ID	Project/Program	1	2	3
94030	Reconstruct I-880/Route 262 interchange and widen I-880 from Route 262 (Mission Boulevard) to the Santa Clara County line from 8 lanes to 10 lanes (8 mixed-flow and 2 HOV lanes)	✓		
94506	Widen Route 84 to 6-lane parkway from I-880 to Paseo Padre and 4-lane parkway from Paseo Padre to Mission Boulevard along the Historic Parkway alignment	✓		
Contra Costa				
21213	Pittsburg/Bay Point BART Station parking & lighting improvements (400 new spaces)			
21216	Extend Laurel Road from Route 4 Bypass to Empire Avenue			
22353	I-680 southbound HOV gap closure between North Main Street and Livorna			✓
22601	Route 4 Bypass, Segment 3: construct a 2-lane facility from Balfour Road to Walnut Boulevard, and upgrade Marsh Creek Road			
94047	Extend the northern limits of the I-80 westbound HOV lane from north of Cummings Skyway to Route 4			
94051	I-680 auxiliary lane from Diablo Road to Sycamore Valley Road (Segment 1) in Danville and from Crow Canyon Road to Bollinger Canyon Road (Segment 3) in San Ramon	✓		
98115	Widen Ygnacio Valley/Kirker Pass Roads from 4 lanes to 6 lanes from Michigan Boulevard to Cowell Road			
98132	Widen and extend Bollinger Canyon Road to 6 lanes from Alcosta Boulevard to Dougherty Road			
98134	Widen Dougherty Road to 6 lanes from Red Willow to Contra Costa County line			
98135	Construct Windermere Parkway: 4 lanes from Bollinger Canyon Road extension to East Branch			
98136	Construct East Branch as 4 lanes from Bollinger Canyon Road extension to Camino Tassajara			
98142	Widen Route 4 from 4 lanes to 8 lanes with HOV lanes from Loveridge Road to Somersville Road	✓		
98211	I-80 eastbound HOV lane extension from Route 4 to the Crockett interchange just south of the Carquinez Bridge			✓
98221	Route 4 Bypass, Segment 2, Phase2: widen to 4 lanes from Lone Tree Way to Balfour Road			
Marin				
21325	US 101/Greenbrae interchange improvements			✓
San Francisco				
22982	Transit enhancements program	✓		
San Mateo				
21605	US 101/Oyster Point Boulevard interchange improvements (Phases 2 and 3)	✓		
21606	US 101/Willow Road interchange reconstruction	✓		
21608	US 101 northbound and southbound auxiliary lanes from Marsh Road to Santa Clara County line	✓		
98176	US 101 auxiliary lanes from 3rd Avenue to Millbrae and US 101/Peninsula Avenue interchange reconstruction	✓		

Table D-1: Transportation 2030 Plan Projects Excluded from TRANSDEF Smart Growth Alternative

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Project ID	Project/Program	1	2	3
Santa Clara				
21558	Foothill Expressway traffic and signal operational improvements from Edith Avenue to El Monte Avenue, and at Grant Avenue/St. Joseph Avenue intersection			
21727	Route 87/US 101 ramp connection to Trimble Road interchange			
21785	US 101/Blossom Hill Road interchange improvements			
21786	US 101/Hellyer Avenue interchange modifications			
21832	Central Expressway level-of-service improvements from Bowers Avenue to De la Cruz Boulevard	✓		
21837	Capitol Expressway level-of-service improvements at McLaughlin Avenue	✓		
21921	BART extension into Santa Clara County (Resolution 3434)	✓		
21922	San Jose International Airport connections to Guadalupe Light Rail Transit (LRT)	✓		
22014	Downtown East Valley: Santa Clara/Alum Rock and Capitol Expressway to Nieman: Preliminary Engineering and Right of way purchase (Resolution 3434)	✓		
22822	Expressway traffic information outlets			
22902	Future rail corridors to be determined by Major Investment Studies (MIS)	✓		
Solano				
21341	Project development for new Fairfield/Vacaville multi-modal rail station for Capitol Corridor intercity rail service in Solano County (Phase 1)			✓
22629	New Vallejo Ferry Terminal intermodal facility			✓
22631	Route 12 westbound (Red Top Road) truck lane			
22632	American Canyon Road overpass at I-80			
22899	Widen Route 12 between Suisun City and Rio Vista from 2 lanes to 4 lanes (includes study of new Rio Vista Bridge)			
22985	Benicia Intermodal Transportation Station			✓
22986	Widen and improve Broadway between Route 37 and Mini Drive from 2 lanes to 4 lanes			
Sonoma				
21070	Realign Route 116 (Stage Gulch Road) along Champlin Creek and widen remaining segments to accommodate pedestrians and bicyclists			
22490	Convert bridges of Sonoma County from one-lane to two-lane bridges			
22655	Widen US 101 for HOV lanes (one in each direction) from Rohnert Park Expressway to Santa Rosa Avenue (includes interchange improvements and ramp metering)			
94165	US 101 northbound and southbound HOV lanes from Route 12 to Steele Lane in Santa Rosa			
New Commitment (previously called Track 1) (Financially Constrained Element)				
Bay Area Region				
22247	Regional Bicycle and Pedestrian Program			
Alameda				
21105	I-580/Isabel interchange improvements (Phases 1 and 2)	✓		
21123	Union City Intermodal Station infrastructure improvements (Phase 2)	✓		
21131	BART-Oakland International Airport connector –(Resolution 3434)	✓		✓

Table D-1: Transportation 2030 Plan Projects Excluded from TRANSDEF Smart Growth Alternative

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Project ID	Project/Program	1	2	3
21132	BART extension to Warm Springs (Resolution 3434)	✓		✓
21144	I-80/Gilman Avenue interchange improvements (includes roundabouts)			
21149	Upgrade express bus services in Dumbarton corridor			✓
22013	I-580 corridor improvements (includes widen I-580 in both directions for HOV and auxiliary lanes from Tassajara Road to Greenville Road, construct HOV direct connector from westbound I-580 to southbound I-680, construct eastbound truck climbing lane from Flynn Road to Greenville Road (Altamont Summit), and acquire express buses) (Resolution 3434)	✓		
22042	Widen I-680 for northbound HOV lane from Route 237 to Stoneridge Drive (includes ramp metering and auxiliary lanes)	✓		
22062	Construct infrastructure for future Irvington BART Station			
22063	Route 238 corridor improvements between Foothill Boulevard/Mattox Road to Mission Boulevard/Industrial Parkway (includes adding a lane throughout the corridor and grade separations at the Foothill/Mission/Jackson interchange)	✓		
22084	Oakland International Airport North Field access road			
22100	Replace I-880/Davis Street overcrossing			
22101	Replace I-880/Marina Boulevard overcrossing			
22509	Alameda/Oakland to San Francisco ferry service and Harbor Bay to San Francisco ferry service	✓		✓
22511	Berkeley/Albany to San Francisco ferry service –(Resolution 3434)			✓
22657	I-205/I-580 Altamont Pass westbound truck lane			
22760	Outer Harbor intermodal terminal (formerly known as Joint Intermodal Terminal (JIT) expansion)			
22761	I-880 from Hegenberger Road to I-980 operation improvements (includes freight movement to Port of Oakland)			
22763	Reconstruct southbound I-880 on- and off- ramps in conjunction with I-880/5th Street seismic retrofit			
22764	Construct auxiliary lane on I-880 between Hegenberger Road and 66th Avenue and shift merge point of the westbound Hegenberger Road to I-880 on-ramp			
22766	Fruitvale Avenue Rail Bridge seismic retrofit			
22776	Widen Route 84 from 2 lanes to 4 lanes from north of Pigeon Pass to Vineyard Avenue and 2 lanes to 4 or 6 lanes from Vineyard Avenue to Jack London Boulevard	✓		
22779	Route 262/Warren Avenue/I-880 interchange improvements (including Union Pacific Railroad grade separation) (Phase 2)			
22990	Widen Route 262 from I-880 to Warm Springs Boulevard (including reconstructing Route 262/I-880 and Route 262/Kato Road interchanges) and reconstruct Union Pacific Railroad underpasses	✓		
98139	ACE station/track improvements in Alameda County (including parking improvements at Vasco Road and downtown Livermore stations)	✓		
98208	Soundwalls program			

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Project ID	Project/Program	1	2	3
Contra Costa				
21205	I-680/Route 4 interchange freeway-to-freeway direct connectors: eastbound Route 4 to southbound I-680, and northbound I- 680 to westbound Route 4 (Phases 1 and 2)	✓		
21206	Caldecott Tunnel fourth bore			✓
21207	Martinez Intermodal Terminal Facility (Phase 3 initial segment): 200 interim parking spaces (includes site acquisition, demolition and construction)			
22602	Construct I-680 auxiliary lanes in both directions from Sycamore Valley Road to Crow Canyon Road	✓		
22603	Richmond intermodal transfer station (680 space parking garage)			
98130	Widen Alhambra Avenue from Route 4 to McAlvey Drive from 2 lanes to 4 lanes	✓		
98194	Extend Commerce Avenue between Pine Creek and Waterworld Parkway to connect Willow Pass Road with Route 242/Concord Avenue interchange	✓		
98196	Route 24 eastbound auxiliary lanes from Gateway Boulevard to Brookwood Road/Moraga Way	✓		
98222	Route 4 Bypass, Segment I: Route 160 freeway-to-freeway connectors to and from the north			
98999	Widen Route 4 eastbound from 4 lanes to 8 lanes from Somersville Road to Route 160	✓		
21306	US 101/Lucas Valley Road interchange improvements (initial phase)	✓		
Marin				
98154	Widen US 101 from Route 37 to the Sonoma County line from 4 lanes to 6 lanes (including 2 HOV lanes) and convert some highway sections to freeway standards			
98179	US 101/Tiburon Boulevard interchange improvements			
Napa				
94074	Widen Route 12 (Jamieson Canyon) from I-80 in Solano County to Route 29 in Napa County from 2 lanes to 4 lanes (Napa County portion of project)			
94075	Route 12/Route 29/Airport interchange construction			
San Francisco				
21510	Third Street light-rail transit extension to Chinatown, Phase 2 (Central Subway)	✓		
22416	Traffic calming	✓		
22984	Wheelchair curb ramps	✓		
San Mateo				
21603	US 101/Woodside Road interchange improvements	✓		
21613	Route 92 improvements from San Mateo Bridge to I-280, includes uphill passing lane from US 101 to I-280 (Phase I)	✓		
21615	I-280/Route 1 interchange safety improvements (initial phase)	✓		
21618	Dumbarton rail corridor (Phase I) –(Resolution 3434)	✓		✓
22125	Ferry service from South San Francisco to San Francisco –(Resolution 3434)			✓
22223	Study of US 101/Peninsula Avenue southbound ramps	✓		
22230	Study of I-280 auxiliary lanes from I-380 to Hickey Boulevard	✓		

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Project ID	Project/Program	1	2	3
22282	Widen US 101 southbound by adding 5th lane from westbound Route 92 loop on-ramp to Ralston Avenue off-ramp			
22424	BART Advanced Automatic Train Control (AATC) Phase V - Daly City to Millbrae/SFO			
22756	US 101/Candlestick interchange reconstruction (Phase I)	✓		
Santa Clara				
20002	Route 85 noise mitigation between I-280 and Route 87	✓		
21713	Construct auxiliary lane on eastbound Route 237 from North First Street to Zanker Road			
21714	Widen US 101 between Monterey Highway and Route 25 (includes an extension to Santa Teresa Boulevard) and construct a full interchange at US 101/Route 25/Santa Teresa Boulevard			
21716	Widen Route 237 from 4 lanes to 6 lanes for HOV lanes between Route 85 and east of Mathilda Avenue			
21717	Widen Route 25 from US 101 to Route 156 from 2 lanes to 6 lanes (includes new interchange at Route 156)			
21718	Route 85 northbound and southbound auxiliary lanes between Homestead Avenue and Fremont Avenue			
21719	I-880/I-280/Stevens Creek Boulevard interchange improvements (Phase I)			
21720	US 101/Tennant Avenue interchange improvements			
21722	US 101 southbound Trimble Road/De La Cruz Boulevard/Central Expressway interchange improvements			
21723	US 101/Tully Road interchange modifications			
21724	Widen US 101 for northbound and southbound auxiliary lane from Trimble Road to Montague Expressway			
21749	Extend Butterfield Boulevard from Tennant Avenue to Watsonville Road			
21836	San Tomas Expressway at Hamilton Avenue level-of-service improvements	✓		
22010	Construct I-280 northbound second exit lane to Foothill Expressway			
22012	Route 237 eastbound auxiliary lane improvement from North First Street to Zanker Road			
22015	I-680/I-880 cross connector (environmental and conceptual engineering)	✓		
22018	US 101/Mathilda Avenue interchange improvements			
22118	Extend Hill Road to Peet Avenue			
22134	Widen US 101 southbound from Story Road to Yerba Buena Road			
22140	Widen US 101 between Cochrane Road and Monterey Highway from 6 lanes to 8 lanes			
22142	US 101/Capitol Expressway interchange improvements (includes new northbound on-ramp from Yerba Buena Road)			
22145	Widen westbound Route 237 on-ramp from Route 237 to northbound US 101 to 2 lanes and add auxiliary lane on northbound US 101 from Route 237 on-ramp to Ellis Street interchange			
22153	Extend Mary Avenue north across Route 237			
22156	Route 85 northbound to SR 237 eastbound connector ramp improvements			

Table D-1: Transportation 2030 Plan Projects Excluded from TRANSDEF Smart Growth Alternative

1= Approved Sales Tax Project, 2= Regional Measure 1 Project, 3= Regional Measure 2 Project

Project ID	Project/Program	1	2	3
22162	Route 237 westbound to Route 85 southbound connector ramp improvements			
22169	Widen Coleman Avenue from Hedding Street and a future Autumn Street extension from 4 lanes to 6 lanes			
22170	Construct I-880 overcrossing on Charcot Avenue between Paragon Drive and Old Oakland Road as a reliever route to Montague Expressway and Brokaw Road			
22171	Extend Autumn Street from Julian Street to Coleman Avenue to connect I-880 to west part of downtown San Jose			
22175	Widen Almaden Expressway between Coleman Road and Blossom Hill Road to 8 lanes			
22176	Widen Berryessa Road from I-680 to Commercial Street from 4 lanes to 6 lanes			
22177	Widen Branham Lane from Vista Park Drive to Snell Avenue from 4 lanes to 6 lanes			
22178	Replace 4-lane structure with 6-lane bridge on Calaveras Boulevard over Union Pacific Railroad from Abel Street to Milpitas Boulevard			
22179	Widen Central Expressway between Lawrence Expressway and San Tomas Expressway from 4 lanes to 6 lanes			
22180	Widen Central Expressway between Lawrence Expressway and Mary Avenue to provide auxiliary acceleration and/or deceleration lanes			
22181	Construct 4-lane bridge over Guadalupe River between Almaden Expressway and Fell Avenue to connection sections of Chynoweth Avenue			
22182	Gilman Road/Arroyo Circle traffic signal and intersection improvements			
22186	Widen San Tomas Expressway between Route 82 and Williams Road to 8 lanes			
22422	Widen Senter Road between Tully Road and Capitol Expressway to 6 lanes			
22806	Capitol Avenue/Great Mall Parkway grade separation over Montague Expressway			
22816	Oregon-Page Mill Expressway corridor operational improvements			
22817	Widen Campbell Avenue to accommodate pedestrian and bicycle facilities			
22830	Widen First Street/Route 152 to add one eastbound lane from Church Street to Monterey Street			
22834	Widen Route 237 for eastbound auxiliary lane from Mathilda Avenue to Fair Oaks Avenue			
22838	Study of Lawrence Expressway/Calvert/I-280 interchange improvements (Caltrans Project Study Report)			
22839	Convert HOV lane to mixed-flow lane on Central Expressway between San Tomas and De La Cruz (including removing HOV queue jump lanes at Bowers)			
22840	Study to reconfigure Route 85/Almaden Expressway interchange (Caltrans Project Study Report/Project Development Study)			
22843	Widen Lawrence Expressway between Moorpark/Bollinger and south of Calvert from 6 lanes to 8 lanes			
22845	Construct US 101 southbound auxiliary lane from Ellis Street to eastbound Route 237			
22854	I-280/Oregon-Page Mill interchange modification			
22857	Widen US 101 for a southbound auxiliary lane from I-880 to McKee Road/Julian Street			
22872	Widen Montague Expressway for HOV lanes between I-880 and I-680 (6 mixed-flow, 2 HOV lanes)			

Table D-1: Transportation 2030 Plan Projects Excluded from TRANSDEF Smart Growth Alternative

1 = Approved Sales Tax Project, 2 = Regional Measure 1 Project, 3 = Regional Measure 2 Project

Project ID	Project/Program	1	2	3
22878	Realign Wildwood Avenue to connect with Lawrence Expressway (includes new traffic signal at Lawrence Expressway/Wildwood Avenue intersection)			
22881	Construct auxiliary lane on southbound Lawrence Expressway between westbound Route 237 and southbound Lawrence Expressway			
22883	Modify medians on Lawrence Expressway from De Sota Avenue and St. Lawrence Drive/Lawrence Station Road for limited access			
22892	Widen US 101 southbound auxiliary lane from Great America Parkway to Lawrence Expressway			
22893	Widen US 101 for a northbound auxiliary lane from McKee/Julian Street to I-880			
22894	US 101 Mabury Road/Taylor Street new interchange (environmental and preliminary engineering)			
22895	San Tomas Expressway/Route 17 interchange operational improvements			
22897	Widen I-680 northbound for an HOV lane from Route 84 to Calaveras Boulevard			
22987	Java Drive bikeway between Mathilda Avenue and Crossman Avenue			
98103	Construct auxiliary lane on northbound Route 17 from Camden Avenue to Hamilton Avenue (including improvements to northbound on-ramp from Camden Avenue)	✓		
Solano				
21807	Widen I-80 from I-680 to Air Base Parkway from 8 lanes to 10 lanes for HOV lanes (includes a braided ramp from I-680 to Suisun Valley Road and improvements to Red Top Road)			✓
22700	Construct parallel corridor north of I-80 from Red Top Road to Abernathy Road (the western section extends from the railroad crossing on Red Top Road to Business Center Drive)			✓
22701	I-80/I-680/Route 12 interchange improvements (includes truck scales and auxiliary lanes) (as identified in I-80/I-680/I-780 Corridor Study)			
22703	I-80/I-680/I-780 corridor mid-term capacity and operation improvements except transit hubs and park and ride lots (as identified in I-80/I-680/I-780 Corridor Study)			
22708	Route 12 from I-80 to Sacramento Bridge long-term capacity and operational improvements (as identified in Route 12 Major Investment Study(MIS))			
22898	Widen I-80 from west of Meridian Road to west of Kidwell Road from 6 lanes to 8 lanes			
94151	Construct 4-lane Jepson Parkway from Route 12 to Leisure Town Road			
94152	Widen Route 12 (Jameson Canyon) from I-80 in Solano County to Route 29 in Napa County from 2 lanes to 4 lanes (Solano County portion of project)			
Sonoma				
21902	Widen US 101 for HOV lanes from Old Redwood Highway to Rohnert Park Expressway			
98147	Widen US 101 from Route 116 east to the Marin/Sonoma County line from 4 lanes to 6 lanes (including 2 HOV lanes), upgrade Petaluma Bridge, and convert some highway sections to freeway standards			
98183	Widen US 101 for HOV lanes between Steele Lane and Windsor River Road			

Table D-1: Transportation 2030 Plan Projects Excluded from TRANSDEF Smart Growth Alternative

1 = Approved Sales Tax Project, 2 = Regional Measure 1 Project, 3 = Regional Measure 2 Project

Project ID	Project/Program	1	2	3
Proposed Sales Tax Projects (Vision Element)				
Contra Costa				
21223	I-680 transit corridor improvements (including express bus service enhancements and improved connections to BART)			
22122	Ferry service in western Contra Costa County (Richmond and Hercules or Rodeo) - Resolution 3434 project			✓
22350	I-680/Route 4 interchange improvements (Phases 3 through 5) and HOV flyover ramps	✓		
22351	I-680 northbound HOV gap closure between North Main Street and Route 242			
22352	I-680/Norris Canyon Road HOV direct ramps in San Ramon			
22354	I-680/Marina Vista interchange improvements			
22355	I-80/Central Avenue interchange modifications			
22360	I-80/San Pablo Dam Road interchange reconstruction			
22365	Martinez Ferry landside improvements			
22382	Richmond Parkway/San Pablo Avenue grade separated interchange	✓		
22383	Upgrade Richmond Parkway geometry to principal arterial standards	✓		
22388	Construct Route 242/Clayton Road northbound on-ramp			
22389	Construct Route 242/Clayton Road southbound off-ramp			
22390	Reconstruct Route 4/Willow Pass Road ramps in Concord			
22604	Construct safety and operational improvements (including potential realignment) on Vasco Road from Brentwood to Alameda County line			
22605	Route 4 Bypass, Segments 2 & 3: widen and upgrade to full freeway (widen segment 2 to 6 lanes from Lone Tree to Balfour, and widen segment 3 to 4 lanes from Balfour to Walnut)			
22607	Major streets widening, extensions and interchange improvements (East County)			
22609	Major streets widening, extensions and interchange improvements (Central County)			
22610	Major streets widening, extensions and interchange improvements (West County)			
22612	I-680/Sycamore Valley Road direct HOV ramps in Danville			
22613	Major streets widening, extensions and interchange improvements (Southwest County)			
22981	Widen Route 4 as continuous 4-lane arterial from Marsh Creek Road to San Joaquin County line			
San Mateo				
21604	US 101 auxiliary lanes from Sierra Point to San Francisco County line	✓		
21609	I-280/I-380 local access improvements from Sneath Lane and San Bruno Avenue to I-380	✓		
21610	US 101 auxiliary lanes from San Bruno Avenue to Grand Avenue	✓		
21892	Widen Route 84 from 4 lanes to 6 lanes from El Camino Real to Broadway	✓		
21893	Route 92 between Half Moon Bay city limits and Pilarcitos Creek alignment and shoulder improvements			
22120	Ferry service from Redwood City to San Francisco to Alameda (Resolution 3434)			✓
22228	Ext Lagoon Way to connect to US 101, Bayshore Blvd, Guadalupe Canyon Pkwy	✓		
22229	US 101/Sierra Point Parkway interchange replacement	✓		

Table D-1: Transportation 2030 Plan Projects Excluded from TRANSDEF Smart Growth Alternative

1 = Approved Sales Tax Project, 2 = Regional Measure 1 Project, 3 = Regional Measure 2 Project

Project ID	Project/Program	1	2	3
22231	Widen north side of John Daly Boulevard/I-280 overcrossing for additional westbound traffic lane and dedicated right-turn lane for southbound I-280 off-ramp	✓		
22271	Widen Skyline Boulevard (Route 35) to 4-lane roadway from I-280 to Sneath Lane			
22273	US 101/Candlestick interchange reconstruction (Phase 2)	✓		
22279	US 101/Produce Avenue interchange project			
22615	Dumbarton Rail Corridor and station improvements			
22622	Manor Drive/Route 1 overcrossing widening and improvement project			
22719	Dumbarton rail corridor (Phase 2)	✓		
22723	Improvement of Dumbarton Bridge access to US 101 (Phase 2)			
22725	I-280/Route 1 interchange improvements	✓		
22726	South San Francisco to Alameda ferry service (Resolution 3434)			✓
22727	US 101/Peninsula Avenue southbound ramps	✓		
22729	I-280 auxiliary lanes from I-380 to Hickey Boulevard	✓		
22739	US 101 operational improvements near Route 92			
22751	Route 1 operational and safety improvements in Half Moon Bay area	✓		
94644	Route 92 westbound slow vehicle lane between Route 35 and I-280			
Solano				
21824	Route 12 from I-80 to Sacramento Bridge capacity and operational improvements as identified in Route 12 Major Investment Study			
22702	I-80/I-680/Route 12 interchange improvements: truck scales and auxiliary lanes (Phases 3 and 4)			
22710	Non-capacity-increasing safety projects to improve congested intersections, local arterials and highways			
22712	Express bus capital and operating			
22717	I-80/I-680/I-780 corridor improvements (midterm projects except transit hubs and park-and-ride lots)			
Sonoma				
22190	Hwy 116/Hwy 121 intersection improvements and Arnold Drive improvements			
22191	US 101/Airport Boulevard interchange improvements			
22192	Widen Airport Boulevard from 2 lanes to 4 lanes (also includes a center turn lane)			
22193	Construct Forestville bypass on Route 116			
22195	Old Redwood Highway/US 101 interchange improvements			
22197	Penngrove local road improvements including Railroad Avenue interchange			
22203	River Road channelization and signals from Fulton Road to the town of Guerneville			
22204	Widen Fulton Road from Guerneville Road to US 101 from 2 lanes to 4 lanes			
22205	US 101/Hearn Avenue interchange improvements; including widening overcrossing and ramps			
22206	Construct Route 12/Fulton Road interchange			
22207	Extend Farmers Lane as a 3-lane or 4-lane arterial from Bellevue Avenue to Route 12			
22443	Design, project development, and financing costs for widening US 101			

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Appendix D.2: Comparison of ABAG and TRANSDEF Projections, 2000 – 2030

As described in Appendix D.1, the TRANSDEF alternative uses different future land use distribution projections as the basis for analysis. The TRANSDEF team provided MTC zone-level data for four specific variables: employed residents, total employment, residential acres and commercial/industrial acres. Tables on the following pages summarize 2000-2030 growth in each superdistrict for all of the key variables used for transportation modeling and impact analysis. These tables (Table D-2 through D-15) include comparative information on: total population, household population, total households, income, employed residents, employment, residential, commercial and industrial land use acreage, and household vehicles. The maps presented after the tables show zone-level differences in the 2030 projections for the TRANSDEF Smart Growth land use assumptions compared to ABAG *Projections 2003*.

To develop this data base, MTC used a SAS script to merge the TRANSDEF database with the ABAG *Projections 2003* data to create a master zonal data file for the TRANSDEF alternative. In terms of methodology, the ratio of the TRANSDEF employed residents to ABAG's *Projections 2003*, year 2030 employed residents was used to adjust: total households, household population, and households by income quartile. The ABAG projected group quarters population for 2030 was added to the TRANSDEF-derived household population to obtain total population.

Certain zone-level variables were not adjusted for the TRANSDEF data, including: average household size; average workers per household; group quarters population; share of population by age cohort; share of households by income level; group mean household income; overall mean household income; share of employment by employment sector; and total acres.

The persons per household and workers per household were inspected at the zone-level, and are identical at the zone-level, comparing ABAG *Projections 2003* and the TRANSDEF-2030.

The proportion of households that are single-family versus multi-family is an important variable in the MTC vehicle ownership model. Zones with higher shares of multi-family dwelling units tend to have lower vehicle ownership levels. Zones with high shares of single-family dwelling units have higher vehicle ownership levels.

The MTC vehicle ownership model (WHHAO) also predicts the distribution of households by workers in the household. Inputs to this model are the number of households by the four income quartiles. Outputs from this model are the number of households by income quartile by workers in household (0, 1, 2+) and by vehicles available in the household (0, 1, 2+). Other input variables to the WHHAO model include group mean household income, average household size, share of population 62-or-older (to predict retired households) and gross population density. Gross population density is a surrogate variable for residential parking density, residential parking costs, land use mixing, and the general effects of urban culture on reducing or increasing auto ownership. Another key variable is the ratio of transit-to-highway accessibility, which is important in using the influence of transit service levels in moderating the growth in auto ownership.

ABAG does not forecast the split of households that are single-family versus multi-family. This has always been a task for MTC staff. Previous models used a very simple model that used the historic census split of single-family versus multi-family and applied this historic split to all future values.

MTC has since developed a model that estimates the proportion of households that are multi-family based on the changes in net residential density. TRANSDEF members initially suggested an alternate methodology that assumes that all new households, formed after year 2000, are multi-family dwelling unit households. After analysis of the implications of this assumption, TRANSDEF agreed that it would be more appropriate to use an adjusted version of the MTC SFDU/MFDU model to make the housing type determination. Accordingly, MTC applied the adjusted SFDU/MFDU model to the TRANSDEF data. The results show 110 thousand fewer single family dwelling units and 150 thousand more multi-family dwelling units compared to the Projections 2003-based estimates. Details on where these changes occurred in each superdistrict are shown in Tables D-10 and D-11.

Table D-2: Compare Total Population by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

	Superdistrict	ABAG Projections 2003			TRANSDEF		Percent
		2000	2005	2030	2030	Difference	Difference
1	Downtown San Francisco	125,742	130,866	162,818	193,199	30,381	18.7%
2	Richmond District	206,546	211,530	223,553	229,578	6,025	2.7%
3	Mission District	312,465	321,701	407,883	459,000	51,117	12.5%
4	Sunset District	131,980	134,485	140,813	147,989	7,176	5.1%
5	Daly City/San Bruno	287,439	296,220	337,173	343,525	6,352	1.9%
6	San Mateo/Burlingame	201,522	211,296	238,137	241,658	3,521	1.5%
7	Redwood City/Menlo Park	218,202	226,587	270,633	280,901	10,268	3.8%
8	Palo Alto/Los Altos	168,940	174,214	201,295	200,590	-705	-0.4%
9	Sunnyvale/Mountain View	225,943	239,451	325,072	332,791	7,719	2.4%
10	Saratoga/Cupertino	309,254	322,498	352,385	351,632	-753	-0.2%
11	Central San Jose	284,443	312,626	479,534	509,963	30,429	6.3%
12	Milpitas/East San Jose	381,056	405,088	515,727	501,288	-14,439	-2.8%
13	South San Jose/Almaden	215,121	223,694	248,325	240,629	-7,696	-3.1%
14	Gilroy/Morgan Hill	97,828	110,727	151,825	120,294	-31,531	-20.8%
15	Livermore/Pleasanton	171,652	198,163	288,409	250,037	-38,372	-13.3%
16	Fremont/Union City	311,764	332,413	404,510	371,995	-32,515	-8.0%
17	Hayward/San Leandro	351,568	370,034	422,329	399,274	-23,055	-5.5%
18	Oakland/Alameda	454,351	473,598	588,074	607,236	19,162	3.3%
19	Berkeley/Albany	154,406	160,184	184,952	168,728	-16,224	-8.8%
20	Richmond/El Cerrito	242,439	252,984	298,804	329,184	30,380	10.2%
21	Concord/Martinez	221,068	232,890	282,716	265,850	-16,866	-6.0%
22	Walnut Creek/Lamorinda	139,416	144,162	164,363	214,113	49,750	30.3%
23	Danville/San Ramon	114,919	125,878	165,399	140,106	-25,293	-15.3%
24	Antioch/Pittsburg	230,974	257,276	346,004	275,257	-70,747	-20.4%
25	Vallejo/Benicia	146,849	157,980	194,181	235,643	41,462	21.4%
26	Fairfield/Vacaville	247,693	282,215	383,106	311,371	-71,735	-18.7%
27	Napa	87,085	93,895	112,426	128,360	15,934	14.2%
28	St. Helena/Calistoga	37,194	38,902	41,077	47,686	6,609	16.1%
29	Petaluma/Sonoma	160,818	174,749	190,919	203,668	12,749	6.7%
30	Santa Rosa/Sebastopol	219,409	235,269	275,304	299,163	23,859	8.7%
31	Healdsburg/Cloverdale	78,387	87,791	99,483	88,191	-11,292	-11.4%
32	Novato	54,506	56,816	68,668	69,969	1,301	1.9%
33	San Rafael	103,658	106,622	114,709	122,936	8,227	7.2%
34	Mill Valley/Sausalito	89,125	91,100	99,711	98,513	-1,198	-1.2%
	Bay Area	6,783,762	7,193,904	8,780,317	8,780,317	0	0.0%
	San Francisco	776,733	798,582	935,067	1,029,766	94,699	10.1%
	San Mateo	707,163	734,103	845,943	866,084	20,141	2.4%
	Santa Clara	1,682,585	1,788,298	2,274,163	2,257,187	-16,976	-0.7%
	Alameda	1,443,741	1,534,392	1,888,274	1,797,270	-91,004	-4.8%
	Contra Costa	948,816	1,013,190	1,257,286	1,224,510	-32,776	-2.6%
	Solano	394,542	440,195	577,287	547,014	-30,273	-5.2%
	Napa	124,279	132,797	153,503	176,046	22,543	14.7%
	Sonoma	458,614	497,809	565,706	591,022	25,316	4.5%
	Marin	247,289	254,538	283,088	291,418	8,330	2.9%

Table D-3: Compare Household Population by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

	Superdistrict	ABAG Projections 2003			TRANSDEF	Difference	Percent
		2000	2005	2030	2030		Difference
1	Downtown San Francisco	118,588	123,297	155,110	185,491	30,381	19.6%
2	Richmond District	201,401	206,089	218,011	224,036	6,025	2.8%
3	Mission District	307,120	316,049	402,141	453,258	51,117	12.7%
4	Sunset District	129,868	132,252	138,538	145,714	7,176	5.2%
5	Daly City/San Bruno	284,856	293,503	334,234	340,586	6,352	1.9%
6	San Mateo/Burlingame	198,170	207,768	234,105	237,626	3,521	1.5%
7	Redwood City/Menlo Park	213,687	221,837	265,483	275,751	10,268	3.9%
8	Palo Alto/Los Altos	160,974	165,930	192,912	192,207	-705	-0.4%
9	Sunnyvale/Mountain View	223,565	236,982	322,560	330,279	7,719	2.4%
10	Saratoga/Cupertino	306,217	319,338	349,200	348,447	-753	-0.2%
11	Central San Jose	275,255	303,071	469,785	500,214	30,429	6.5%
12	Milpitas/East San Jose	376,119	399,959	510,475	496,036	-14,439	-2.8%
13	South San Jose/Almaden	214,616	223,169	247,795	240,099	-7,696	-3.1%
14	Gilroy/Morgan Hill	96,124	108,952	149,949	118,418	-31,531	-21.0%
15	Livermore/Pleasanton	165,886	191,906	281,665	243,293	-38,372	-13.6%
16	Fremont/Union City	309,575	330,037	402,065	369,550	-32,515	-8.1%
17	Hayward/San Leandro	345,965	363,954	415,767	392,712	-23,055	-5.5%
18	Oakland/Alameda	446,424	464,994	578,750	597,912	19,162	3.3%
19	Berkeley/Albany	148,157	153,402	177,646	161,422	-16,224	-9.1%
20	Richmond/El Cerrito	239,735	250,245	295,965	326,345	30,380	10.3%
21	Concord/Martinez	217,771	229,548	279,080	262,214	-16,866	-6.0%
22	Walnut Creek/Lamorinda	136,489	141,194	161,186	210,936	49,750	30.9%
23	Danville/San Ramon	114,030	124,977	164,398	139,105	-25,293	-15.4%
24	Antioch/Pittsburg	229,454	255,734	344,462	273,715	-70,747	-20.5%
25	Vallejo/Benicia	144,997	156,105	192,306	233,768	41,462	21.6%
26	Fairfield/Vacaville	233,571	267,896	368,587	296,852	-71,735	-19.5%
27	Napa	84,388	91,113	109,374	125,308	15,934	14.6%
28	St. Helena/Calistoga	34,658	36,285	38,331	44,940	6,609	17.2%
29	Petaluma/Sonoma	156,799	170,730	186,800	199,549	12,749	6.8%
30	Santa Rosa/Sebastopol	213,963	229,823	269,662	293,521	23,859	8.8%
31	Healdsburg/Cloverdale	76,750	86,154	97,746	86,454	-11,292	-11.6%
32	Novato	53,519	55,828	67,583	68,884	1,301	1.9%
33	San Rafael	100,342	103,303	111,176	119,403	8,227	7.4%
34	Mill Valley/Sausalito	81,942	83,909	92,319	91,121	-1,198	-1.3%
	Bay Area	6,640,975	7,045,333	8,625,166	8,625,166	0	0.0%
	San Francisco	756,977	777,687	913,800	1,008,499	94,699	10.4%
	San Mateo	696,713	723,108	833,822	853,963	20,141	2.4%
	Santa Clara	1,652,870	1,757,401	2,242,676	2,225,700	-16,976	-0.8%
	Alameda	1,416,007	1,504,293	1,855,893	1,764,889	-91,004	-4.9%
	Contra Costa	937,479	1,001,698	1,245,091	1,212,315	-32,776	-2.6%
	Solano	378,568	424,001	560,893	530,620	-30,273	-5.4%
	Napa	119,046	127,398	147,705	170,248	22,543	15.3%
	Sonoma	447,512	486,707	554,208	579,524	25,316	4.6%
	Marin	235,803	243,040	271,078	279,408	8,330	3.1%

Table D-4: Compare Total Households by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

Superdistrict	ABAG Projections 2003			TRANSDEF	Percent	
	2000	2005	2030	2030	Difference	Difference
1 Downtown San Francisco	68,139	70,457	90,839	107,500	16,661	18.3%
2 Richmond District	102,163	103,795	111,993	113,572	1,579	1.4%
3 Mission District	110,434	112,872	146,876	166,281	19,405	13.2%
4 Sunset District	48,961	49,527	52,886	54,834	1,948	3.7%
5 Daly City/San Bruno	96,371	98,356	112,182	113,573	1,391	1.2%
6 San Mateo/Burlingame	80,400	83,388	94,154	95,185	1,031	1.1%
7 Redwood City/Menlo Park	77,333	79,207	94,676	100,233	5,557	5.9%
8 Palo Alto/Los Altos	68,068	69,733	83,015	81,924	-1,091	-1.3%
9 Sunnyvale/Mountain View	88,679	93,475	129,646	131,929	2,283	1.8%
10 Saratoga/Cupertino	116,842	120,875	134,580	133,202	-1,378	-1.0%
11 Central San Jose	92,049	100,776	155,052	164,897	9,845	6.3%
12 Milpitas/East San Jose	99,420	105,073	136,508	130,620	-5,888	-4.3%
13 South San Jose/Almaden	71,320	73,637	82,963	79,451	-3,512	-4.2%
14 Gilroy/Morgan Hill	29,484	33,174	46,281	36,092	-10,189	-22.0%
15 Livermore/Pleasanton	60,487	68,513	101,460	87,132	-14,328	-14.1%
16 Fremont/Union City	99,510	103,601	126,244	115,518	-10,726	-8.5%
17 Hayward/San Leandro	122,610	126,105	145,020	136,469	-8,551	-5.9%
18 Oakland/Alameda	172,049	175,536	221,842	224,959	3,117	1.4%
19 Berkeley/Albany	68,709	69,639	81,356	73,139	-8,217	-10.1%
20 Richmond/El Cerrito	85,492	88,716	106,677	115,171	8,494	8.0%
21 Concord/Martinez	83,827	87,742	107,839	101,202	-6,637	-6.2%
22 Walnut Creek/Lamorinda	59,110	60,836	71,105	92,701	21,596	30.4%
23 Danville/San Ramon	41,471	45,304	61,439	51,788	-9,651	-15.7%
24 Antioch/Pittsburg	74,229	82,313	112,824	88,623	-24,201	-21.5%
25 Vallejo/Benicia	50,961	53,728	67,476	84,846	17,370	25.7%
26 Fairfield/Vacaville	79,442	89,448	125,894	100,499	-25,395	-20.2%
27 Napa	31,209	33,607	41,328	47,178	5,850	14.2%
28 St. Helena/Calistoga	14,193	14,834	15,904	18,967	3,063	19.3%
29 Petaluma/Sonoma	60,448	64,788	72,343	76,080	3,737	5.2%
30 Santa Rosa/Sebastopol	82,438	87,101	103,497	112,731	9,234	8.9%
31 Healdsburg/Cloverdale	29,517	32,502	37,317	32,601	-4,716	-12.6%
32 Novato	21,176	21,866	26,731	26,950	219	0.8%
33 San Rafael	41,527	42,308	45,902	48,864	2,962	6.5%
34 Mill Valley/Sausalito	37,947	38,515	42,743	41,887	-856	-2.0%
Bay Area	2,466,015	2,581,347	3,186,592	3,186,598	6	0.0%
San Francisco	329,697	336,651	402,594	442,187	39,593	9.8%
San Mateo	254,104	260,951	301,012	308,991	7,979	2.7%
Santa Clara	565,862	596,743	768,045	758,115	-9,930	-1.3%
Alameda	523,365	543,394	675,922	637,217	-38,705	-5.7%
Contra Costa	344,129	364,911	459,884	449,485	-10,399	-2.3%
Solano	130,403	143,176	193,370	185,345	-8,025	-4.2%
Napa	45,402	48,441	57,232	66,145	8,913	15.6%
Sonoma	172,403	184,391	213,157	221,412	8,255	3.9%
Marin	100,650	102,689	115,376	117,701	2,325	2.0%

Table D-5: Compare Mean Household Income by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

Superdistrict	ABAG Projections 2003			TRANSDEF		Percent	
	2000	2005	2030	2030	Difference	Difference	
1 Downtown San Francisco	\$46,835	\$47,865	\$63,628	\$67,048	\$3,420	5.4%	
2 Richmond District	\$72,131	\$72,994	\$92,021	\$93,096	\$1,075	1.2%	
3 Mission District	\$59,716	\$59,743	\$75,041	\$75,980	\$939	1.3%	
4 Sunset District	\$62,318	\$60,553	\$77,923	\$79,347	\$1,424	1.8%	
5 Daly City/San Bruno	\$66,690	\$67,999	\$86,355	\$87,126	\$772	0.9%	
6 San Mateo/Burlingame	\$91,490	\$91,435	\$119,979	\$118,956	-\$1,023	-0.9%	
7 Redwood City/Menlo Park	\$102,380	\$103,070	\$130,095	\$127,296	-\$2,799	-2.2%	
8 Palo Alto/Los Altos	\$97,455	\$98,090	\$126,025	\$126,242	\$216	0.2%	
9 Sunnyvale/Mountain View	\$67,517	\$68,900	\$83,739	\$85,354	\$1,615	1.9%	
10 Saratoga/Cupertino	\$83,424	\$83,888	\$111,962	\$112,196	\$234	0.2%	
11 Central San Jose	\$54,893	\$53,760	\$68,940	\$69,581	\$641	0.9%	
12 Milpitas/East San Jose	\$70,143	\$70,384	\$92,951	\$92,457	-\$494	-0.5%	
13 South San Jose/Almaden	\$74,634	\$74,608	\$98,306	\$98,849	\$544	0.6%	
14 Gilroy/Morgan Hill	\$70,497	\$71,511	\$95,850	\$95,938	\$88	0.1%	
15 Livermore/Pleasanton	\$74,816	\$76,097	\$94,744	\$94,779	\$36	0.0%	
16 Fremont/Union City	\$68,100	\$67,233	\$85,512	\$85,405	-\$107	-0.1%	
17 Hayward/San Leandro	\$49,439	\$49,713	\$63,444	\$64,693	\$1,250	2.0%	
18 Oakland/Alameda	\$47,970	\$47,222	\$60,314	\$60,378	\$63	0.1%	
19 Berkeley/Albany	\$52,342	\$52,847	\$67,442	\$67,317	-\$124	-0.2%	
20 Richmond/El Cerrito	\$47,337	\$47,350	\$63,223	\$64,146	\$923	1.5%	
21 Concord/Martinez	\$55,521	\$56,092	\$71,378	\$72,170	\$792	1.1%	
22 Walnut Creek/Lamorinda	\$80,403	\$80,751	\$104,465	\$102,314	-\$2,151	-2.1%	
23 Danville/San Ramon	\$105,766	\$107,522	\$135,403	\$134,845	-\$557	-0.4%	
24 Antioch/Pittsburg	\$50,106	\$51,996	\$64,822	\$65,648	\$827	1.3%	
25 Vallejo/Benicia	\$47,921	\$47,631	\$64,141	\$57,101	-\$7,040	-11.0%	
26 Fairfield/Vacaville	\$49,040	\$48,091	\$61,445	\$60,966	-\$479	-0.8%	
27 Napa	\$48,051	\$51,036	\$65,906	\$63,515	-\$2,392	-3.6%	
28 St. Helena/Calistoga	\$65,028	\$70,932	\$94,960	\$91,737	-\$3,223	-3.4%	
29 Petaluma/Sonoma	\$53,500	\$56,126	\$72,551	\$73,927	\$1,376	1.9%	
30 Santa Rosa/Sebastopol	\$50,402	\$51,669	\$67,006	\$67,201	\$196	0.3%	
31 Healdsburg/Cloverdale	\$51,225	\$53,578	\$68,343	\$70,414	\$2,072	3.0%	
32 Novato	\$63,115	\$61,720	\$76,977	\$77,664	\$687	0.9%	
33 San Rafael	\$67,385	\$67,549	\$87,428	\$87,299	-\$129	-0.1%	
34 Mill Valley/Sausalito	\$100,420	\$99,759	\$128,291	\$128,996	\$705	0.5%	
Bay Area	\$64,915	\$65,248	\$83,302	\$83,336	\$35	0.0%	
San Francisco	\$61,287	\$61,461	\$81,029	\$78,622	-\$2,407	-3.0%	
San Mateo	\$85,399	\$86,133	\$115,564	\$109,962	-\$5,602	-4.8%	
Santa Clara	\$73,863	\$73,901	\$98,415	\$94,200	-\$4,215	-4.3%	
Alameda	\$55,818	\$55,977	\$74,918	\$71,340	-\$3,579	-4.8%	
Contra Costa	\$62,649	\$63,539	\$85,225	\$82,266	-\$2,959	-3.5%	
Solano	\$48,603	\$47,919	\$65,034	\$59,196	-\$5,838	-9.0%	
Napa	\$53,358	\$57,129	\$77,283	\$71,607	-\$5,676	-7.3%	
Sonoma	\$51,629	\$53,571	\$72,208	\$69,985	-\$2,223	-3.1%	
Marin	\$78,942	\$78,388	\$104,617	\$99,932	-\$4,685	-4.5%	

Table D-6: Compare Employed Residents by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

Superdistrict	ABAG Projections 2003			TRANSDEF		Percent Difference
	2000	2005	2030	2030	Difference	
1 Downtown San Francisco	67,021	66,175	98,901	114,311	15,410	15.6%
2 Richmond District	129,693	126,105	150,078	154,485	4,407	2.9%
3 Mission District	162,150	158,499	221,159	248,452	27,293	12.3%
4 Sunset District	69,195	67,042	77,363	81,516	4,153	5.4%
5 Daly City/San Bruno	145,158	143,219	191,889	196,086	4,197	2.2%
6 San Mateo/Burlingame	107,550	108,099	146,236	148,927	2,691	1.8%
7 Redwood City/Menlo Park	109,012	108,116	152,576	160,729	8,153	5.3%
8 Palo Alto/Los Altos	88,209	85,539	126,344	127,588	1,244	1.0%
9 Sunnyvale/Mountain View	124,983	124,804	205,533	211,426	5,893	2.9%
10 Saratoga/Cupertino	159,059	155,963	217,790	218,328	538	0.2%
11 Central San Jose	137,328	143,433	254,990	271,513	16,523	6.5%
12 Milpitas/East San Jose	175,469	176,280	272,475	265,606	-6,869	-2.5%
13 South San Jose/Almaden	112,802	110,368	156,234	152,024	-4,210	-2.7%
14 Gilroy/Morgan Hill	46,887	50,383	80,025	63,144	-16,881	-21.1%
15 Livermore/Pleasanton	89,160	101,478	175,552	153,831	-21,721	-12.4%
16 Fremont/Union City	153,519	161,510	239,371	221,824	-17,547	-7.3%
17 Hayward/San Leandro	164,659	170,589	229,849	218,952	-10,897	-4.7%
18 Oakland/Alameda	202,143	207,125	304,153	308,631	4,478	1.5%
19 Berkeley/Albany	84,712	86,315	114,276	103,749	-10,527	-9.2%
20 Richmond/El Cerrito	109,135	114,585	156,209	169,277	13,068	8.4%
21 Concord/Martinez	113,130	120,165	172,317	163,352	-8,965	-5.2%
22 Walnut Creek/Lamorinda	67,122	69,890	93,705	126,286	32,581	34.8%
23 Danville/San Ramon	59,965	66,629	103,784	88,902	-14,882	-14.3%
24 Antioch/Pittsburg	102,637	115,515	178,727	141,917	-36,810	-20.6%
25 Vallejo/Benicia	67,090	73,858	103,452	119,563	16,111	15.6%
26 Fairfield/Vacaville	111,913	130,829	202,047	163,230	-38,817	-19.2%
27 Napa	40,508	43,184	60,862	67,359	6,497	10.7%
28 St. Helena/Calistoga	18,081	18,595	22,135	25,191	3,056	13.8%
29 Petaluma/Sonoma	82,841	92,065	108,285	116,458	8,173	7.5%
30 Santa Rosa/Sebastopol	108,296	118,730	149,258	163,105	13,847	9.3%
31 Healdsburg/Cloverdale	38,843	44,279	51,554	45,751	-5,803	-11.3%
32 Novato	28,540	29,912	41,503	42,413	910	2.2%
33 San Rafael	54,652	56,346	66,478	71,736	5,258	7.9%
34 Mill Valley/Sausalito	45,910	47,190	58,119	57,639	-480	-0.8%
Bay Area	3,377,372	3,492,814	4,983,229	4,983,301	72	0.0%
San Francisco	428,059	417,821	547,501	598,764	51,263	9.4%
San Mateo	361,720	359,434	490,701	505,742	15,041	3.1%
Santa Clara	844,737	846,770	1,313,391	1,309,629	-3,762	-0.3%
Alameda	694,193	727,017	1,063,201	1,006,987	-56,214	-5.3%
Contra Costa	451,989	486,784	704,742	689,734	-15,008	-2.1%
Solano	179,003	204,687	305,499	282,793	-22,706	-7.4%
Napa	58,589	61,779	82,997	92,550	9,553	11.5%
Sonoma	229,980	255,074	309,097	325,314	16,217	5.2%
Marin	129,102	133,448	166,100	171,788	5,688	3.4%

**Table D-7: Compare Total Employment by MTC 34 Superdistrict & County, 2000-2030
ABAG Projections 2003 & TRANSDEF Smart Growth Alternative**

Superdistrict	ABAG Projections 2003			TRANSDEF		Percent Difference
	2000	2005	2030	2030	Difference	
1 Downtown San Francisco	386,585	394,752	489,191	495,957	6,766	1.4%
2 Richmond District	81,534	78,013	103,263	121,422	18,159	17.6%
3 Mission District	138,117	137,034	187,294	189,390	2,096	1.1%
4 Sunset District	28,216	25,715	35,473	35,154	-319	-0.9%
5 Daly City/San Bruno	163,295	162,678	227,295	240,168	12,873	5.7%
6 San Mateo/Burlingame	111,981	112,581	144,940	150,848	5,908	4.1%
7 Redwood City/Menlo Park	120,629	121,400	154,326	171,246	16,920	11.0%
8 Palo Alto/Los Altos	179,491	178,678	202,999	209,619	6,620	3.3%
9 Sunnyvale/Mountain View	372,458	370,141	467,849	493,819	25,970	5.6%
10 Saratoga/Cupertino	145,643	144,506	183,784	186,076	2,292	1.2%
11 Central San Jose	161,034	161,505	255,869	257,904	2,035	0.8%
12 Milpitas/East San Jose	120,310	118,062	171,727	184,824	13,097	7.6%
13 South San Jose/Almaden	71,208	69,742	101,265	94,172	-7,093	-7.0%
14 Gilroy/Morgan Hill	42,200	43,255	91,876	62,219	-29,657	-32.3%
15 Livermore/Pleasanton	119,075	125,067	211,513	186,791	-24,722	-11.7%
16 Fremont/Union City	145,553	156,442	228,417	185,983	-42,434	-18.6%
17 Hayward/San Leandro	163,593	170,622	216,889	230,825	13,936	6.4%
18 Oakland/Alameda	216,170	227,273	306,476	316,859	10,383	3.4%
19 Berkeley/Albany	107,279	110,994	124,068	131,869	7,801	6.3%
20 Richmond/El Cerrito	76,291	82,650	111,526	118,191	6,665	6.0%
21 Concord/Martinez	104,518	110,012	147,133	149,174	2,041	1.4%
22 Walnut Creek/Lamorinda	82,823	86,439	98,481	128,192	29,711	30.2%
23 Danville/San Ramon	53,803	58,697	80,629	61,758	-18,871	-23.4%
24 Antioch/Pittsburg	43,670	47,262	98,643	57,396	-41,247	-41.8%
25 Vallejo/Benicia	43,881	47,776	71,462	81,348	9,886	13.8%
26 Fairfield/Vacaville	79,330	85,854	133,211	120,203	-13,008	-9.8%
27 Napa	41,453	46,322	62,157	61,869	-288	-0.5%
28 St. Helena/Calistoga	25,381	25,937	26,841	26,927	86	0.3%
29 Petaluma/Sonoma	61,085	66,104	102,620	99,889	-2,731	-2.7%
30 Santa Rosa/Sebastopol	123,534	136,135	187,674	180,741	-6,933	-3.7%
31 Healdsburg/Cloverdale	20,602	22,022	30,719	25,048	-5,671	-18.5%
32 Novato	27,878	28,582	45,295	44,033	-1,262	-2.8%
33 San Rafael	52,911	54,042	63,854	69,152	5,298	8.3%
34 Mill Valley/Sausalito	42,175	42,666	54,815	50,899	-3,916	-7.1%
Bay Area	3,753,706	3,848,960	5,219,574	5,219,965	391	0.0%
San Francisco	634,452	635,514	815,221	841,923	26,702	3.3%
San Mateo	395,905	396,659	526,561	562,262	35,701	6.8%
Santa Clara	1,092,344	1,085,889	1,475,369	1,488,633	13,264	0.9%
Alameda	751,670	790,398	1,087,363	1,052,327	-35,036	-3.2%
Contra Costa	361,105	385,060	536,412	514,711	-21,701	-4.0%
Solano	123,211	133,630	204,673	201,551	-3,122	-1.5%
Napa	66,834	72,259	88,998	88,796	-202	-0.2%
Sonoma	205,221	224,261	321,013	305,678	-15,335	-4.8%
Marin	122,964	125,290	163,964	164,084	120	0.1%

Table D-8: Compare Residential Acres by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

Superdistrict	ABAG Projections 2003			TRANSDEF		Percent	
	2000	2005	2030	2030	Difference	Difference	
1 Downtown San Francisco	547	553	586	598	12	2.0%	
2 Richmond District	2,259	2,275	2,318	2,318	0	0.0%	
3 Mission District	4,025	4,072	4,279	4,441	162	3.8%	
4 Sunset District	2,540	2,561	2,609	2,609	0	0.0%	
5 Daly City/San Bruno	9,945	10,094	10,525	9,967	-558	-5.3%	
6 San Mateo/Burlingame	16,715	17,174	18,535	16,725	-1,810	-9.8%	
7 Redwood City/Menlo Park	34,320	35,295	37,131	34,341	-2,790	-7.5%	
8 Palo Alto/Los Altos	17,931	18,126	18,526	17,948	-578	-3.1%	
9 Sunnyvale/Mountain View	10,992	11,239	11,984	11,005	-979	-8.2%	
10 Saratoga/Cupertino	28,375	28,774	29,228	28,379	-849	-2.9%	
11 Central San Jose	12,404	12,640	13,451	12,478	-973	-7.2%	
12 Milpitas/East San Jose	18,948	19,519	20,659	19,165	-1,494	-7.2%	
13 South San Jose/Almaden	14,928	15,208	15,558	14,929	-629	-4.0%	
14 Gilroy/Morgan Hill	13,779	15,024	19,492	13,779	-5,713	-29.3%	
15 Livermore/Pleasanton	20,655	23,388	26,729	21,572	-5,157	-19.3%	
16 Fremont/Union City	18,923	19,556	20,450	18,931	-1,519	-7.4%	
17 Hayward/San Leandro	21,540	21,993	22,492	21,551	-941	-4.2%	
18 Oakland/Alameda	18,629	18,786	19,434	18,765	-669	-3.4%	
19 Berkeley/Albany	5,881	5,900	6,055	5,909	-146	-2.4%	
20 Richmond/El Cerrito	11,616	11,965	13,311	11,670	-1,641	-12.3%	
21 Concord/Martinez	15,800	16,371	17,835	15,865	-1,970	-11.0%	
22 Walnut Creek/Lamorinda	19,317	19,751	20,839	19,358	-1,481	-7.1%	
23 Danville/San Ramon	16,821	17,605	19,135	17,011	-2,124	-11.1%	
24 Antioch/Pittsburg	16,495	18,239	21,692	17,026	-4,666	-21.5%	
25 Vallejo/Benicia	7,752	8,037	8,506	8,094	-412	-4.8%	
26 Fairfield/Vacaville	34,737	38,224	42,856	35,210	-7,646	-17.8%	
27 Napa	7,586	7,950	8,961	8,025	-936	-10.4%	
28 St. Helena/Calistoga	10,272	10,586	11,008	10,375	-633	-5.8%	
29 Petaluma/Sonoma	38,637	40,696	41,928	39,203	-2,725	-6.5%	
30 Santa Rosa/Sebastopol	58,457	60,275	62,512	59,270	-3,242	-5.2%	
31 Healdsburg/Cloverdale	45,721	48,659	50,968	45,770	-5,198	-10.2%	
32 Novato	6,733	6,903	7,501	7,060	-441	-5.9%	
33 San Rafael	14,497	14,600	15,155	14,756	-399	-2.6%	
34 Mill Valley/Sausalito	9,115	9,202	9,572	9,325	-247	-2.6%	
Bay Area	586,892	611,240	651,820	593,428	-58,392	-9.0%	
San Francisco	9,371	9,461	9,792	9,966	174	1.8%	
San Mateo	60,980	62,563	66,191	61,033	-5,158	-7.8%	
Santa Clara	117,357	120,530	128,898	117,683	-11,215	-8.7%	
Alameda	85,628	89,623	95,160	86,728	-8,432	-8.9%	
Contra Costa	80,049	83,931	92,812	80,930	-11,882	-12.8%	
Solano	42,489	46,261	51,362	43,304	-8,058	-15.7%	
Napa	17,858	18,536	19,969	18,400	-1,569	-7.9%	
Sonoma	142,815	149,630	155,408	144,243	-11,165	-7.2%	
Marin	30,345	30,705	32,228	31,141	-1,087	-3.4%	

**Table D-9: Compare Commercial + Industrial Acres by MTC 34 Superdistrict & County, 2000-2030
ABAG Projections 2003 & TRANSDEF Smart Growth Alternative**

Superdistrict	ABAG Projections 2003			TRANSDEF	Difference	Percent
	2000	2005	2030	2030		Difference
1 Downtown San Francisco	1,395	1,397	1,399	1,387	-12	-0.9%
2 Richmond District	969	969	1,023	1,023	0	0.0%
3 Mission District	3,070	3,066	3,129	3,051	-78	-2.5%
4 Sunset District	438	435	442	442	0	0.0%
5 Daly City/San Bruno	8,545	8,549	8,642	8,592	-50	-0.6%
6 San Mateo/Burlingame	4,942	4,943	4,981	4,976	-5	-0.1%
7 Redwood City/Menlo Park	9,642	9,640	9,649	9,649	0	0.0%
8 Palo Alto/Los Altos	4,404	4,401	4,421	4,405	-16	-0.4%
9 Sunnyvale/Mountain View	17,015	17,007	17,112	16,921	-191	-1.1%
10 Saratoga/Cupertino	5,234	5,231	5,260	5,109	-151	-2.9%
11 Central San Jose	5,709	5,708	5,899	5,706	-193	-3.3%
12 Milpitas/East San Jose	6,354	6,356	6,386	6,267	-119	-1.9%
13 South San Jose/Almaden	3,134	3,132	3,264	3,097	-167	-5.1%
14 Gilroy/Morgan Hill	2,957	2,956	3,062	2,927	-135	-4.4%
15 Livermore/Pleasanton	9,100	9,097	9,342	9,165	-177	-1.9%
16 Fremont/Union City	10,311	10,311	10,575	10,317	-258	-2.4%
17 Hayward/San Leandro	12,115	12,121	12,237	12,129	-108	-0.9%
18 Oakland/Alameda	13,750	13,746	14,061	13,782	-279	-2.0%
19 Berkeley/Albany	3,413	3,416	3,484	3,424	-60	-1.7%
20 Richmond/El Cerrito	8,308	8,307	9,061	8,304	-757	-8.4%
21 Concord/Martinez	12,382	12,382	13,013	12,483	-530	-4.1%
22 Walnut Creek/Lamorinda	2,727	2,727	2,946	2,733	-213	-7.2%
23 Danville/San Ramon	2,274	2,272	2,703	2,275	-428	-15.8%
24 Antioch/Pittsburg	10,030	10,048	11,530	10,054	-1,476	-12.8%
25 Vallejo/Benicia	6,608	6,606	6,723	6,721	-2	0.0%
26 Fairfield/Vacaville	18,550	18,549	19,040	18,909	-131	-0.7%
27 Napa	2,601	2,599	2,729	2,704	-25	-0.9%
28 St. Helena/Calistoga	2,182	2,181	2,190	2,190	0	0.0%
29 Petaluma/Sonoma	11,047	11,043	11,161	11,161	0	0.0%
30 Santa Rosa/Sebastopol	9,515	9,515	9,569	9,487	-82	-0.9%
31 Healdsburg/Cloverdale	11,796	11,795	11,813	11,813	0	0.0%
32 Novato	2,414	2,414	2,419	2,419	0	0.0%
33 San Rafael	4,319	4,321	4,390	4,390	0	0.0%
34 Mill Valley/Sausalito	1,919	1,920	1,935	1,935	0	0.0%
Bay Area	229,169	229,160	235,590	229,947	-5,643	-2.4%
San Francisco	5,872	5,867	5,993	5,903	-90	-1.5%
San Mateo	23,129	23,132	23,272	23,217	-55	-0.2%
Santa Clara	44,807	44,791	45,404	44,432	-972	-2.1%
Alameda	48,689	48,691	49,699	48,817	-882	-1.8%
Contra Costa	35,721	35,736	39,253	35,849	-3,404	-8.7%
Solano	25,158	25,155	25,763	25,630	-133	-0.5%
Napa	4,783	4,780	4,919	4,894	-25	-0.5%
Sonoma	32,358	32,353	32,543	32,461	-82	-0.3%
Marin	8,652	8,655	8,744	8,744	0	0.0%

Table D-10: Compare Single-Family Households by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

Superdistrict	ABAG Projections 2003			TRANSDEF	Percent	
	2000	2005	2030	2030	Difference	Difference
1 Downtown San Francisco	2,246	2,282	2,360	2,557	197	8.3%
2 Richmond District	17,081	17,338	14,326	11,295	-3,031	-21.2%
3 Mission District	55,300	56,226	66,256	65,099	-1,157	-1.7%
4 Sunset District	33,102	33,468	35,152	35,667	515	1.5%
5 Daly City/San Bruno	66,445	67,743	74,982	70,913	-4,069	-5.4%
6 San Mateo/Burlingame	49,832	51,721	56,485	51,702	-4,783	-8.5%
7 Redwood City/Menlo Park	53,340	54,552	61,454	57,628	-3,826	-6.2%
8 Palo Alto/Los Altos	41,318	42,075	46,440	42,031	-4,409	-9.5%
9 Sunnyvale/Mountain View	40,871	42,735	51,287	46,340	-4,947	-9.6%
10 Saratoga/Cupertino	80,542	83,447	91,453	87,606	-3,847	-4.2%
11 Central San Jose	51,382	55,256	71,910	67,350	-4,560	-6.3%
12 Milpitas/East San Jose	79,005	83,393	104,650	95,473	-9,177	-8.8%
13 South San Jose/Almaden	55,203	57,032	63,514	59,036	-4,478	-7.1%
14 Gilroy/Morgan Hill	22,699	25,641	35,388	25,920	-9,468	-26.8%
15 Livermore/Pleasanton	47,672	54,063	78,725	63,948	-14,777	-18.8%
16 Fremont/Union City	72,259	75,408	89,205	77,160	-12,045	-13.5%
17 Hayward/San Leandro	81,530	83,737	92,397	82,725	-9,672	-10.5%
18 Oakland/Alameda	88,180	89,623	100,537	97,569	-2,968	-3.0%
19 Berkeley/Albany	32,546	32,824	35,284	31,638	-3,646	-10.3%
20 Richmond/El Cerrito	61,083	63,238	74,534	76,330	1,796	2.4%
21 Concord/Martinez	59,645	62,619	76,242	68,161	-8,081	-10.6%
22 Walnut Creek/Lamorinda	40,225	41,413	47,336	56,019	8,683	18.3%
23 Danville/San Ramon	36,013	39,337	51,691	42,110	-9,581	-18.5%
24 Antioch/Pittsburg	59,376	66,147	89,722	69,732	-19,990	-22.3%
25 Vallejo/Benicia	37,716	39,506	47,512	49,906	2,394	5.0%
26 Fairfield/Vacaville	61,885	70,014	97,496	75,980	-21,516	-22.1%
27 Napa	22,798	24,487	29,637	30,159	522	1.8%
28 St. Helena/Calistoga	10,731	11,244	11,979	13,291	1,312	11.0%
29 Petaluma/Sonoma	45,531	48,705	53,921	54,002	81	0.2%
30 Santa Rosa/Sebastopol	60,239	63,754	74,068	74,160	92	0.1%
31 Healdsburg/Cloverdale	24,987	27,392	31,078	27,313	-3,765	-12.1%
32 Novato	15,842	16,255	19,386	18,941	-445	-2.3%
33 San Rafael	28,316	28,694	30,616	29,211	-1,405	-4.6%
34 Mill Valley/Sausalito	25,081	25,451	27,951	26,463	-1,488	-5.3%
Bay Area	1,560,021	1,636,820	1,934,974	1,783,435	-151,539	-7.8%
San Francisco	107,729	109,314	118,094	114,618	-3,476	-2.9%
San Mateo	169,617	174,016	192,921	180,243	-12,678	-6.6%
Santa Clara	371,020	389,579	464,642	423,756	-40,886	-8.8%
Alameda	322,187	335,655	396,148	353,040	-43,108	-10.9%
Contra Costa	256,342	272,754	339,525	312,352	-27,173	-8.0%
Solano	99,601	109,520	145,008	125,886	-19,122	-13.2%
Napa	33,529	35,731	41,616	43,450	1,834	4.4%
Sonoma	130,757	139,851	159,067	155,475	-3,592	-2.3%
Marin	69,239	70,400	77,953	74,615	-3,338	-4.3%

Table D-11: Compare Multi-Family Households by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

Superdistrict	ABAG Projections 2003			TRANSDEF	Percent	
	2000	2005	2030	2030	Difference	Difference
1 Downtown San Francisco	65,893	68,175	88,479	93,407	4,928	5.6%
2 Richmond District	85,082	86,457	97,667	101,746	4,079	4.2%
3 Mission District	55,134	56,646	80,620	89,436	8,816	10.9%
4 Sunset District	15,859	16,059	17,734	19,167	1,433	8.1%
5 Daly City/San Bruno	29,926	30,613	37,200	42,673	5,473	14.7%
6 San Mateo/Burlingame	30,568	31,667	37,669	43,483	5,814	15.4%
7 Redwood City/Menlo Park	23,993	24,655	33,222	42,605	9,383	28.2%
8 Palo Alto/Los Altos	26,750	27,658	36,575	39,552	2,977	8.1%
9 Sunnyvale/Mountain View	47,808	50,740	78,359	87,260	8,901	11.4%
10 Saratoga/Cupertino	36,300	37,428	43,127	45,596	2,469	5.7%
11 Central San Jose	40,667	45,520	83,142	97,547	14,405	17.3%
12 Milpitas/East San Jose	20,415	21,680	31,858	35,176	3,318	10.4%
13 South San Jose/Almaden	16,117	16,605	19,449	20,415	966	5.0%
14 Gilroy/Morgan Hill	6,785	7,533	10,893	10,172	-721	-6.6%
15 Livermore/Pleasanton	12,815	14,450	22,735	23,184	449	2.0%
16 Fremont/Union City	27,251	28,193	37,039	37,548	509	1.4%
17 Hayward/San Leandro	41,080	42,368	52,623	53,744	1,121	2.1%
18 Oakland/Alameda	83,869	85,913	121,305	126,727	5,422	4.5%
19 Berkeley/Albany	36,163	36,815	46,072	41,853	-4,219	-9.2%
20 Richmond/El Cerrito	24,409	25,478	32,143	38,841	6,698	20.8%
21 Concord/Martinez	24,182	25,123	31,597	33,041	1,444	4.6%
22 Walnut Creek/Lamorinda	18,885	19,423	23,769	36,682	12,913	54.3%
23 Danville/San Ramon	5,458	5,967	9,748	9,678	-70	-0.7%
24 Antioch/Pittsburg	14,853	16,166	23,102	18,891	-4,211	-18.2%
25 Vallejo/Benicia	13,245	14,222	19,964	34,940	14,976	75.0%
26 Fairfield/Vacaville	17,557	19,434	28,398	24,519	-3,879	-13.7%
27 Napa	8,411	9,120	11,691	17,019	5,328	45.6%
28 St. Helena/Calistoga	3,462	3,590	3,925	5,676	1,751	44.6%
29 Petaluma/Sonoma	14,917	16,083	18,422	22,078	3,656	19.8%
30 Santa Rosa/Sebastopol	22,199	23,347	29,429	38,571	9,142	31.1%
31 Healdsburg/Cloverdale	4,530	5,110	6,239	5,288	-951	-15.2%
32 Novato	5,334	5,611	7,345	8,009	664	9.0%
33 San Rafael	13,211	13,614	15,286	19,653	4,367	28.6%
34 Mill Valley/Sausalito	12,866	13,064	14,792	15,424	632	4.3%
Bay Area	905,994	944,527	1,251,618	1,379,601	127,983	10.2%
San Francisco	221,968	227,337	284,500	303,756	19,256	6.8%
San Mateo	84,487	86,935	108,091	128,761	20,670	19.1%
Santa Clara	194,842	207,164	303,403	335,718	32,315	10.7%
Alameda	201,178	207,739	279,774	283,056	3,282	1.2%
Contra Costa	87,787	92,157	120,359	137,133	16,774	13.9%
Solano	30,802	33,656	48,362	59,459	11,097	22.9%
Napa	11,873	12,710	15,616	22,695	7,079	45.3%
Sonoma	41,646	44,540	54,090	65,937	11,847	21.9%
Marin	31,411	32,289	37,423	43,086	5,663	15.1%

Table D-12: Compare Zero-Vehicle Households by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

	Superdistrict	ABAG Projections 2003			TRANSDEF		Percent
		2000	2005	2030	2030	Difference	Difference
1	Downtown San Francisco	40,154	41,433	52,702	70,794	18,092	34.3%
2	Richmond District	23,892	23,165	26,308	33,103	6,795	25.8%
3	Mission District	20,814	20,306	29,455	37,903	8,448	28.7%
4	Sunset District	6,165	6,061	5,891	6,091	200	3.4%
5	Daly City/San Bruno	6,660	4,466	6,168	7,173	1,005	16.3%
6	San Mateo/Burlingame	4,628	3,290	4,153	6,035	1,882	45.3%
7	Redwood City/Menlo Park	4,832	3,533	5,460	9,946	4,486	82.2%
8	Palo Alto/Los Altos	3,935	3,469	4,337	5,837	1,500	34.6%
9	Sunnyvale/Mountain View	4,989	4,913	8,558	10,205	1,647	19.2%
10	Saratoga/Cupertino	5,375	4,725	4,701	5,417	716	15.2%
11	Central San Jose	8,566	10,314	19,439	26,763	7,324	37.7%
12	Milpitas/East San Jose	5,488	5,420	7,506	8,779	1,273	17.0%
13	South San Jose/Almaden	3,041	2,546	2,704	3,264	560	20.7%
14	Gilroy/Morgan Hill	1,449	1,350	1,568	1,563	-5	-0.3%
15	Livermore/Pleasanton	2,043	1,823	2,481	9,236	6,755	272.3%
16	Fremont/Union City	4,646	4,069	5,534	8,561	3,027	54.7%
17	Hayward/San Leandro	9,669	9,835	11,740	12,497	757	6.4%
18	Oakland/Alameda	30,825	32,747	48,447	56,904	8,457	17.5%
19	Berkeley/Albany	10,969	11,153	12,410	13,059	649	5.2%
20	Richmond/El Cerrito	8,659	8,882	8,994	13,310	4,316	48.0%
21	Concord/Martinez	5,719	5,978	6,567	7,664	1,097	16.7%
22	Walnut Creek/Lamorinda	3,397	3,309	4,024	8,883	4,859	120.8%
23	Danville/San Ramon	924	885	2,050	5,355	3,305	161.2%
24	Antioch/Pittsburg	4,290	4,241	4,974	4,952	-22	-0.4%
25	Vallejo/Benicia	3,981	4,107	5,381	16,378	10,997	204.4%
26	Fairfield/Vacaville	4,453	4,729	5,886	7,897	2,011	34.2%
27	Napa	2,074	1,964	2,045	5,485	3,440	168.2%
28	St. Helena/Calistoga	633	521	417	713	296	71.0%
29	Petaluma/Sonoma	3,382	2,681	1,918	3,504	1,586	82.7%
30	Santa Rosa/Sebastopol	5,093	4,679	4,003	10,275	6,272	156.7%
31	Healdsburg/Cloverdale	1,403	1,396	1,302	1,924	622	47.8%
32	Novato	1,072	1,075	893	1,257	364	40.8%
33	San Rafael	2,462	2,412	2,214	3,456	1,242	56.1%
34	Mill Valley/Sausalito	1,550	1,187	1,139	1,245	106	9.3%
	Bay Area	247,232	242,664	311,369	425,428	114,059	36.6%
	San Francisco	91,025	90,965	114,356	147,891	33,535	29.3%
	San Mateo	16,120	11,289	15,781	23,154	7,373	46.7%
	Santa Clara	32,843	32,737	48,813	61,828	13,015	26.7%
	Alameda	58,152	59,627	80,612	100,257	19,645	24.4%
	Contra Costa	22,989	23,295	26,609	40,164	13,555	50.9%
	Solano	8,434	8,836	11,267	24,275	13,008	115.5%
	Napa	2,707	2,485	2,462	6,198	3,736	151.7%
	Sonoma	9,878	8,756	7,223	15,703	8,480	117.4%
	Marin	5,084	4,674	4,246	5,958	1,712	40.3%

Table D-13: Compare Total Household Vehicles by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

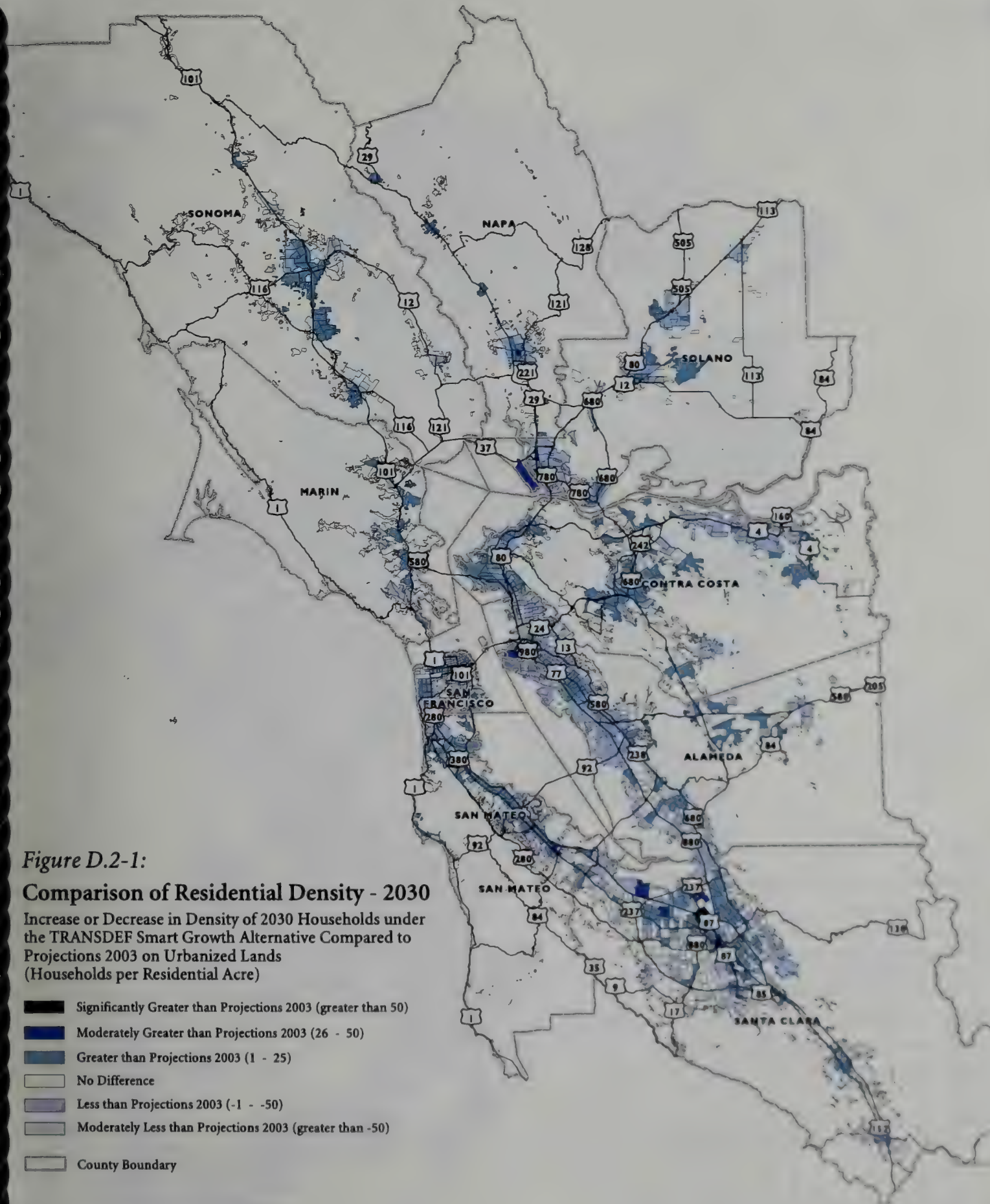
Superdistrict	ABAG Projections 2003			TRANSDEF		Percent	
	2000	2005	2030	2030	Difference	Difference	
1 Downtown San Francisco	35,362	37,509	50,396	47,140	-3,256	-6.5%	
2 Richmond District	114,724	120,969	126,299	114,485	-11,814	-9.4%	
3 Mission District	147,744	155,719	195,446	211,350	15,904	8.1%	
4 Sunset District	73,335	75,191	82,300	85,376	3,076	3.7%	
5 Daly City/San Bruno	180,808	201,192	221,872	219,334	-2,538	-1.1%	
6 San Mateo/Burlingame	146,593	164,268	180,086	172,581	-7,505	-4.2%	
7 Redwood City/Menlo Park	148,070	162,338	186,277	180,481	-5,796	-3.1%	
8 Palo Alto/Los Altos	122,940	131,170	152,806	144,979	-7,828	-5.1%	
9 Sunnyvale/Mountain View	155,075	167,011	220,802	217,857	-2,945	-1.3%	
10 Saratoga/Cupertino	228,126	244,545	272,990	266,058	-6,931	-2.5%	
11 Central San Jose	164,153	179,354	265,265	264,938	-327	-0.1%	
12 Milpitas/East San Jose	225,007	242,385	311,508	290,522	-20,986	-6.7%	
13 South San Jose/Almaden	150,499	161,058	180,767	169,926	-10,841	-6.0%	
14 Gilroy/Morgan Hill	63,309	73,917	104,621	80,437	-24,184	-23.1%	
15 Livermore/Pleasanton	123,239	144,141	214,092	152,937	-61,155	-28.6%	
16 Fremont/Union City	204,543	220,604	264,570	226,522	-38,048	-14.4%	
17 Hayward/San Leandro	223,274	232,689	267,373	246,552	-20,821	-7.8%	
18 Oakland/Alameda	239,824	244,465	296,768	284,232	-12,536	-4.2%	
19 Berkeley/Albany	91,977	94,301	111,667	96,756	-14,911	-13.4%	
20 Richmond/El Cerrito	146,378	153,203	191,150	194,704	3,555	1.9%	
21 Concord/Martinez	155,209	163,259	203,787	184,787	-19,000	-9.3%	
22 Walnut Creek/Lamorinda	106,396	111,961	129,343	157,111	27,768	21.5%	
23 Danville/San Ramon	88,840	99,183	126,831	97,416	-29,414	-23.2%	
24 Antioch/Pittsburg	146,811	167,049	234,184	177,697	-56,487	-24.1%	
25 Vallejo/Benicia	95,633	103,263	129,850	134,289	4,438	3.4%	
26 Fairfield/Vacaville	157,557	180,717	259,280	196,067	-63,213	-24.4%	
27 Napa	57,575	64,336	81,274	82,010	735	0.9%	
28 St. Helena/Calistoga	27,301	30,053	33,394	38,376	4,982	14.9%	
29 Petaluma/Sonoma	116,241	131,630	152,901	153,535	634	0.4%	
30 Santa Rosa/Sebastopol	152,409	166,167	207,290	208,618	1,328	0.6%	
31 Healdsburg/Cloverdale	57,179	64,628	76,408	62,344	-14,064	-18.4%	
32 Novato	40,088	41,458	52,893	51,194	-1,699	-3.2%	
33 San Rafael	73,168	75,292	83,769	84,558	788	0.9%	
34 Mill Valley/Sausalito	65,598	70,104	78,430	75,955	-2,475	-3.2%	
Bay Area	4,324,985	4,675,130	5,746,689	5,371,124	-375,565	-6.5%	
San Francisco	371,165	389,388	454,441	458,351	3,910	0.9%	
San Mateo	475,472	527,798	588,235	572,396	-15,839	-2.7%	
Santa Clara	1,109,108	1,199,439	1,508,759	1,434,716	-74,042	-4.9%	
Alameda	882,858	936,200	1,154,471	1,006,999	-147,471	-12.8%	
Contra Costa	643,634	694,655	885,294	811,716	-73,578	-8.3%	
Solano	253,190	283,980	389,130	330,356	-58,775	-15.1%	
Napa	84,876	94,389	114,668	120,385	5,717	5.0%	
Sonoma	325,829	362,425	436,599	424,497	-12,102	-2.8%	
Marin	178,853	186,855	215,092	211,706	-3,386	-1.6%	

**Table D-14: Compare Average Vehicles per Household by MTC 34 Superdistrict & County, 2000-2030
ABAG Projections 2003 & TRANSDEF Smart Growth Alternative**

	Superdistrict	ABAG Projections 2003			TRANSDEF		Percent Difference
		2000	2005	2030	2030	Difference	
1	Downtown San Francisco	0.52	0.53	0.55	0.44	-0.12	-21.0%
2	Richmond District	1.12	1.17	1.13	1.01	-0.12	-10.6%
3	Mission District	1.34	1.38	1.33	1.27	-0.06	-4.5%
4	Sunset District	1.50	1.52	1.56	1.56	0.00	0.1%
5	Daly City/San Bruno	1.88	2.05	1.98	1.93	-0.05	-2.4%
6	San Mateo/Burlingame	1.82	1.97	1.91	1.81	-0.10	-5.2%
7	Redwood City/Menlo Park	1.91	2.05	1.97	1.80	-0.17	-8.5%
8	Palo Alto/Los Altos	1.81	1.88	1.84	1.77	-0.07	-3.9%
9	Sunnyvale/Mountain View	1.75	1.79	1.70	1.65	-0.05	-3.0%
10	Saratoga/Cupertino	1.95	2.02	2.03	2.00	-0.03	-1.5%
11	Central San Jose	1.78	1.78	1.71	1.61	-0.10	-6.1%
12	Milpitas/East San Jose	2.26	2.31	2.28	2.22	-0.06	-2.5%
13	South San Jose/Almaden	2.11	2.19	2.18	2.14	-0.04	-1.8%
14	Gilroy/Morgan Hill	2.15	2.23	2.26	2.23	-0.03	-1.4%
15	Livermore/Pleasanton	2.04	2.10	2.11	1.76	-0.35	-16.8%
16	Fremont/Union City	2.06	2.13	2.10	1.96	-0.13	-6.4%
17	Hayward/San Leandro	1.82	1.85	1.84	1.81	-0.04	-2.0%
18	Oakland/Alameda	1.39	1.39	1.34	1.26	-0.07	-5.6%
19	Berkeley/Albany	1.34	1.35	1.37	1.32	-0.05	-3.6%
20	Richmond/El Cerrito	1.71	1.73	1.79	1.69	-0.10	-5.7%
21	Concord/Martinez	1.85	1.86	1.89	1.83	-0.06	-3.4%
22	Walnut Creek/Lamorinda	1.80	1.84	1.82	1.69	-0.12	-6.8%
23	Danville/San Ramon	2.14	2.19	2.06	1.88	-0.18	-8.9%
24	Antioch/Pittsburg	1.98	2.03	2.08	2.01	-0.07	-3.4%
25	Vallejo/Benicia	1.88	1.92	1.92	1.58	-0.34	-17.8%
26	Fairfield/Vacaville	1.98	2.02	2.06	1.95	-0.11	-5.3%
27	Napa	1.84	1.91	1.97	1.74	-0.23	-11.6%
28	St. Helena/Calistoga	1.92	2.03	2.10	2.02	-0.08	-3.6%
29	Petaluma/Sonoma	1.92	2.03	2.11	2.02	-0.10	-4.5%
30	Santa Rosa/Sebastopol	1.85	1.91	2.00	1.85	-0.15	-7.6%
31	Healdsburg/Cloverdale	1.94	1.99	2.05	1.91	-0.14	-6.6%
32	Novato	1.89	1.90	1.98	1.90	-0.08	-4.0%
33	San Rafael	1.76	1.78	1.82	1.73	-0.09	-5.2%
34	Mill Valley/Sausalito	1.73	1.82	1.83	1.81	-0.02	-1.2%
	Bay Area	1.75	1.81	1.80	1.69	-0.12	-6.5%
	San Francisco	1.13	1.16	1.13	1.04	-0.09	-8.2%
	San Mateo	1.87	2.02	1.95	1.85	-0.10	-5.2%
	Santa Clara	1.96	2.01	1.96	1.89	-0.07	-3.7%
	Alameda	1.69	1.72	1.71	1.58	-0.13	-7.5%
	Contra Costa	1.87	1.90	1.93	1.81	-0.12	-6.2%
	Solano	1.94	1.98	2.01	1.78	-0.23	-11.4%
	Napa	1.87	1.95	2.00	1.82	-0.18	-9.2%
	Sonoma	1.89	1.97	2.05	1.92	-0.13	-6.4%
	Marin	1.78	1.82	1.86	1.80	-0.07	-3.5%

Table D-15: Compare Share of Zero-Vehicle of Total Households by MTC 34 Superdistrict & County, 2000-2030 ABAG Projections 2003 & TRANSDEF Smart Growth Alternative

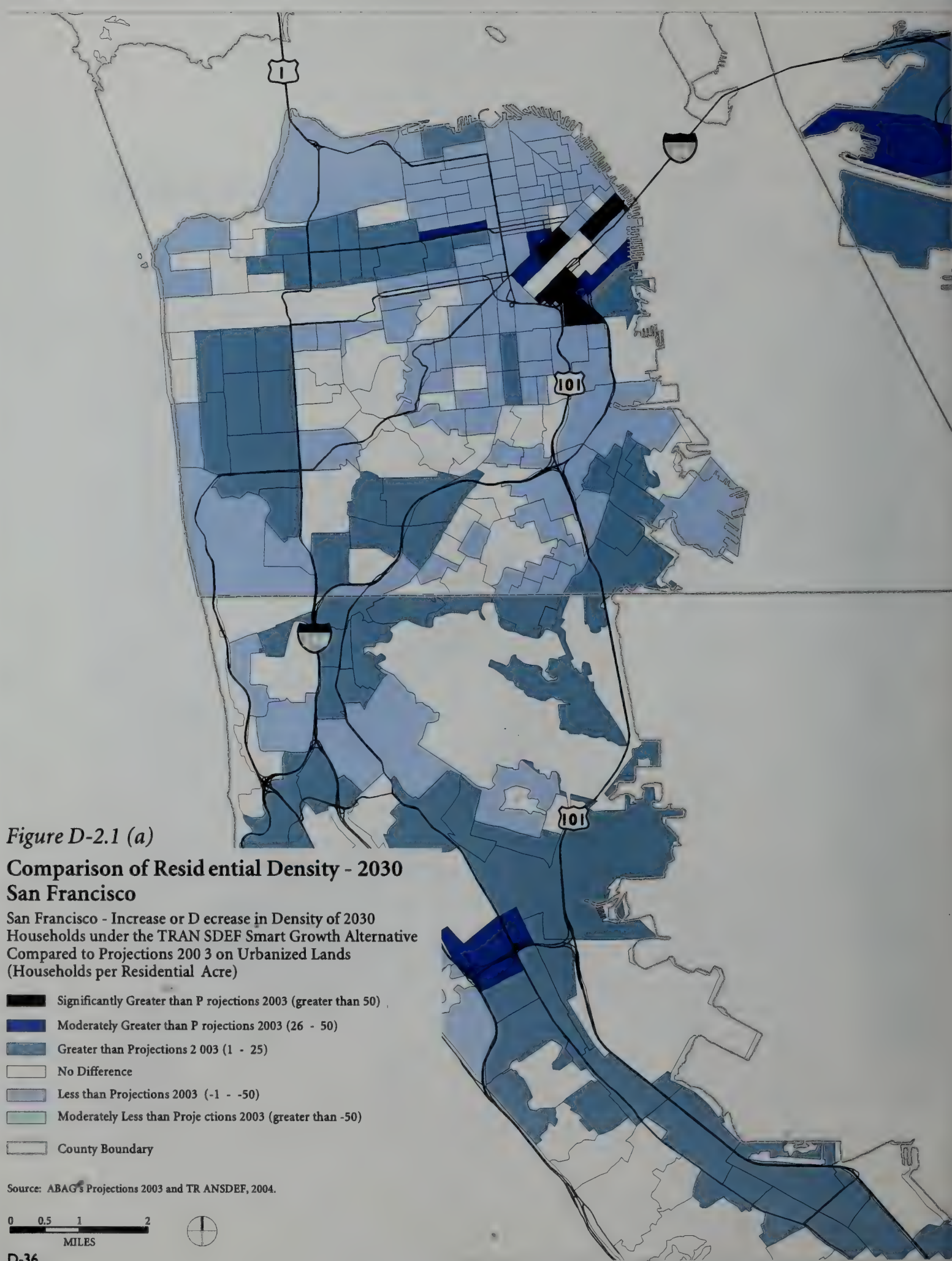
Superdistrict	ABAG Projections 2003			TRANSDEF	Percent	
	2000	2005	2030	2030	Difference	Difference
1 Downtown San Francisco	58.9%	58.8%	58.0%	65.9%	7.8%	13.5%
2 Richmond District	23.4%	22.3%	23.5%	29.1%	5.7%	24.1%
3 Mission District	18.8%	18.0%	20.1%	22.8%	2.7%	13.7%
4 Sunset District	12.6%	12.2%	11.1%	11.1%	0.0%	-0.3%
5 Daly City/San Bruno	6.9%	4.5%	5.5%	6.3%	0.8%	14.9%
6 San Mateo/Burlingame	5.8%	3.9%	4.4%	6.3%	1.9%	43.7%
7 Redwood City/Menlo Park	6.2%	4.5%	5.8%	9.9%	4.2%	72.1%
8 Palo Alto/Los Altos	5.8%	5.0%	5.2%	7.1%	1.9%	36.4%
9 Sunnyvale/Mountain View	5.6%	5.3%	6.6%	7.7%	1.1%	17.2%
10 Saratoga/Cupertino	4.6%	3.9%	3.5%	4.1%	0.6%	16.4%
11 Central San Jose	9.3%	10.2%	12.5%	16.2%	3.7%	29.5%
12 Milpitas/East San Jose	5.5%	5.2%	5.5%	6.7%	1.2%	22.2%
13 South San Jose/Almaden	4.3%	3.5%	3.3%	4.1%	0.8%	26.0%
14 Gilroy/Morgan Hill	4.9%	4.1%	3.4%	4.3%	0.9%	27.8%
15 Livermore/Pleasanton	3.4%	2.7%	2.4%	10.6%	8.2%	333.5%
16 Fremont/Union City	4.7%	3.9%	4.4%	7.4%	3.0%	69.1%
17 Hayward/San Leandro	7.9%	7.8%	8.1%	9.2%	1.1%	13.1%
18 Oakland/Alameda	17.9%	18.7%	21.8%	25.3%	3.5%	15.8%
19 Berkeley/Albany	16.0%	16.0%	15.3%	17.9%	2.6%	17.1%
20 Richmond/El Cerrito	10.1%	10.0%	8.4%	11.6%	3.1%	37.1%
21 Concord/Martinez	6.8%	6.8%	6.1%	7.6%	1.5%	24.4%
22 Walnut Creek/Lamorinda	5.7%	5.4%	5.7%	9.6%	3.9%	69.3%
23 Danville/San Ramon	2.2%	2.0%	3.3%	10.3%	7.0%	209.9%
24 Antioch/Pittsburg	5.8%	5.2%	4.4%	5.6%	1.2%	26.7%
25 Vallejo/Benicia	7.8%	7.6%	8.0%	19.3%	11.3%	142.1%
26 Fairfield/Vacaville	5.6%	5.3%	4.7%	7.9%	3.2%	68.1%
27 Napa	6.6%	5.8%	4.9%	11.6%	6.7%	135.0%
28 St. Helena/Calistoga	4.5%	3.5%	2.6%	3.8%	1.1%	43.4%
29 Petaluma/Sonoma	5.6%	4.1%	2.7%	4.6%	2.0%	73.7%
30 Santa Rosa/Sebastopol	6.2%	5.4%	3.9%	9.1%	5.2%	135.7%
31 Healdsburg/Cloverdale	4.8%	4.3%	3.5%	5.9%	2.4%	69.1%
32 Novato	5.1%	4.9%	3.3%	4.7%	1.3%	39.6%
33 San Rafael	5.9%	5.7%	4.8%	7.1%	2.2%	46.6%
34 Mill Valley/Sausalito	4.1%	3.1%	2.7%	3.0%	0.3%	11.5%
Bay Area	10.0%	9.4%	9.8%	13.4%	3.6%	36.6%
San Francisco	27.6%	27.0%	28.4%	33.4%	5.0%	17.7%
San Mateo	6.3%	4.3%	5.2%	7.5%	2.3%	42.9%
Santa Clara	5.8%	5.5%	6.4%	8.2%	1.8%	28.3%
Alameda	11.1%	11.0%	11.9%	15.7%	3.8%	31.9%
Contra Costa	6.7%	6.4%	5.8%	8.9%	3.1%	54.4%
Solano	6.5%	6.2%	5.8%	13.1%	7.3%	124.8%
Napa	6.0%	5.1%	4.3%	9.4%	5.1%	117.8%
Sonoma	5.7%	4.7%	3.4%	7.1%	3.7%	109.3%
Marin	5.1%	4.6%	3.7%	5.1%	1.4%	37.5%

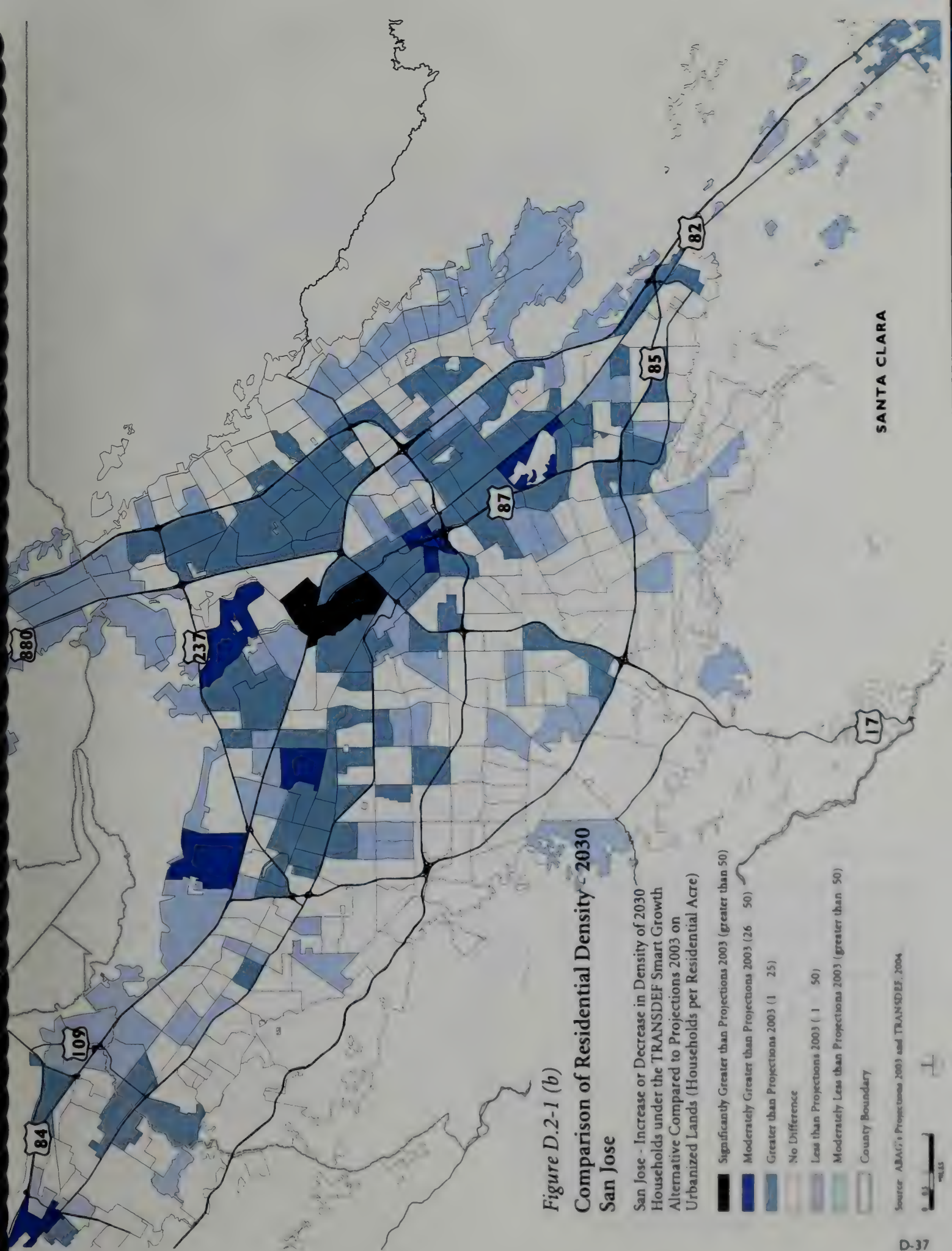


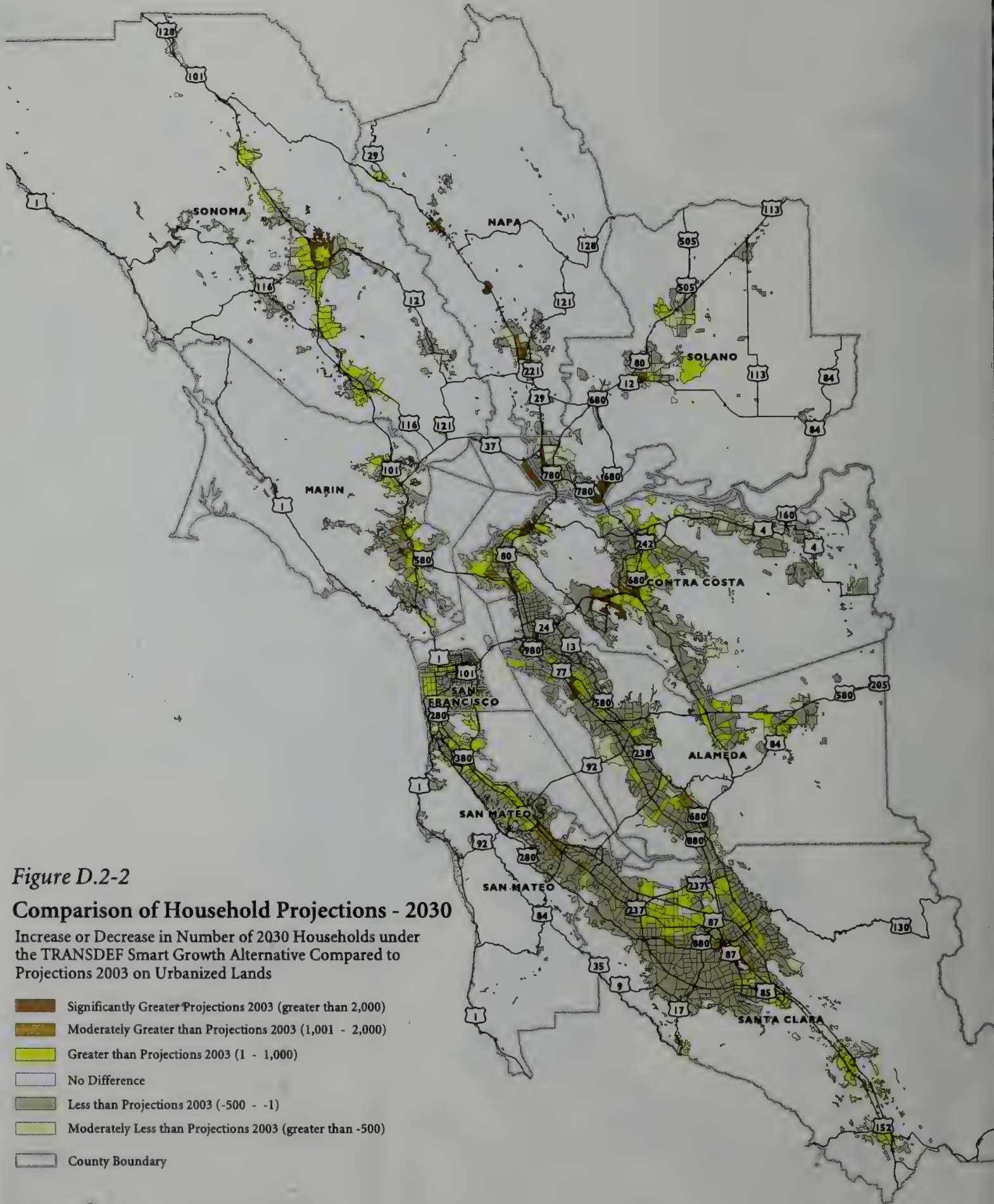
Source: ABAG's Projections 2003 and TRANSDEF, 2004.

0 5 10 20
MILES









Source: ABAG's Projections 2003 and TRANSDEF, 2004.

0 5 10 20
 MILES



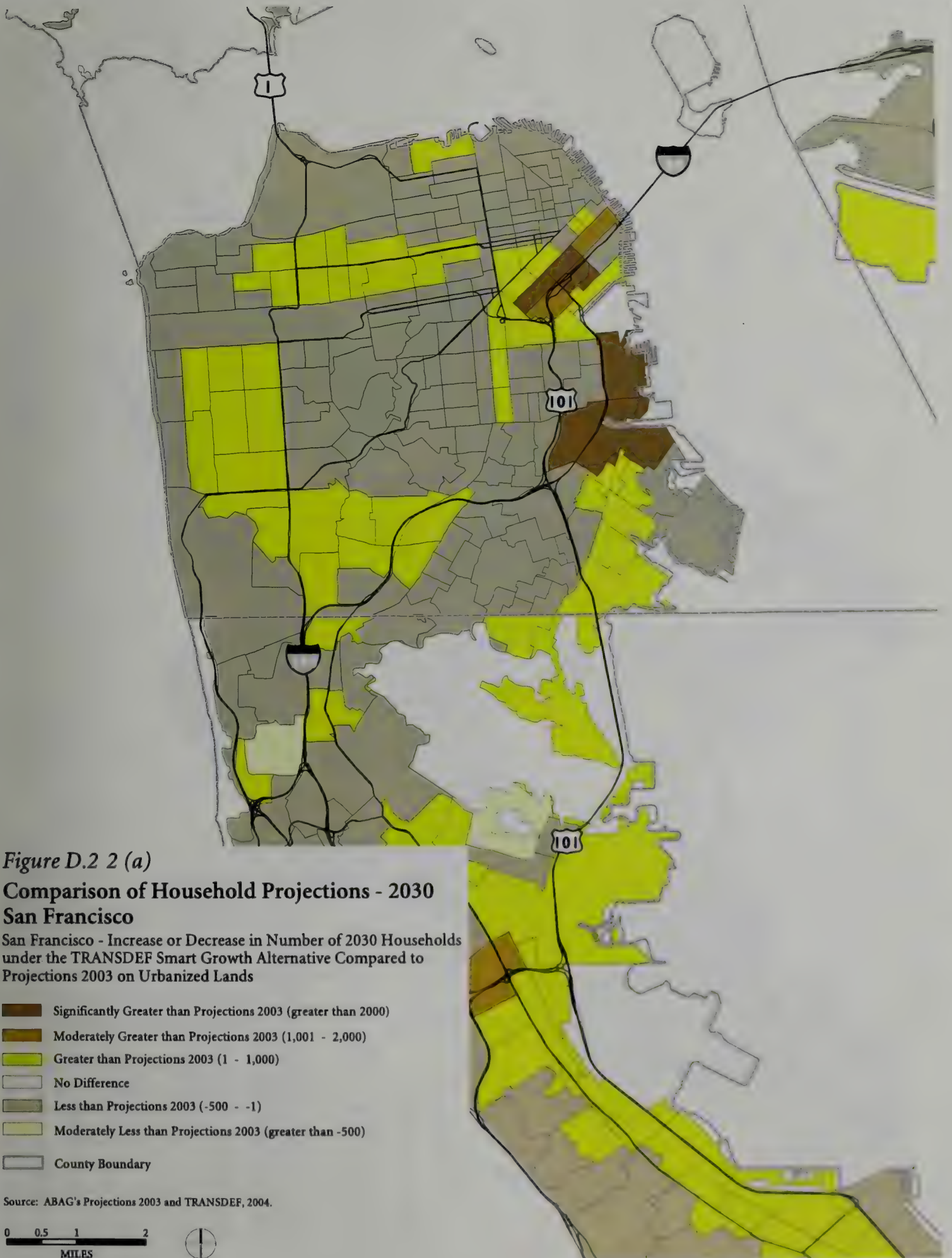
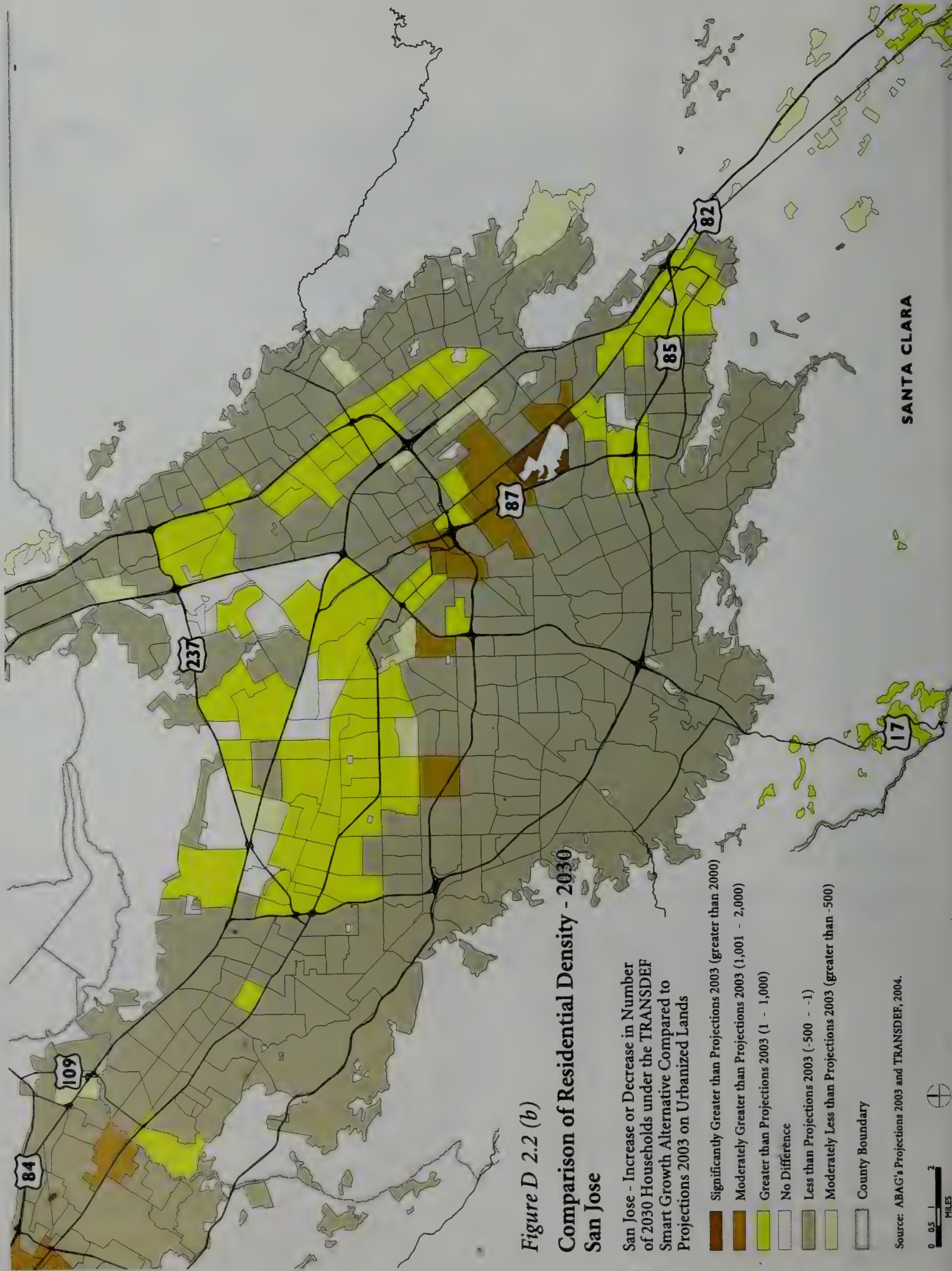


Figure D.2 2 (a)
Comparison of Household Projections - 2030
San Francisco
 San Francisco - Increase or Decrease in Number of 2030 Households under the TRANSDEF Smart Growth Alternative Compared to Projections 2003 on Urbanized Lands

Source: ABAG's Projections 2003 and TRANSDEF, 2004.



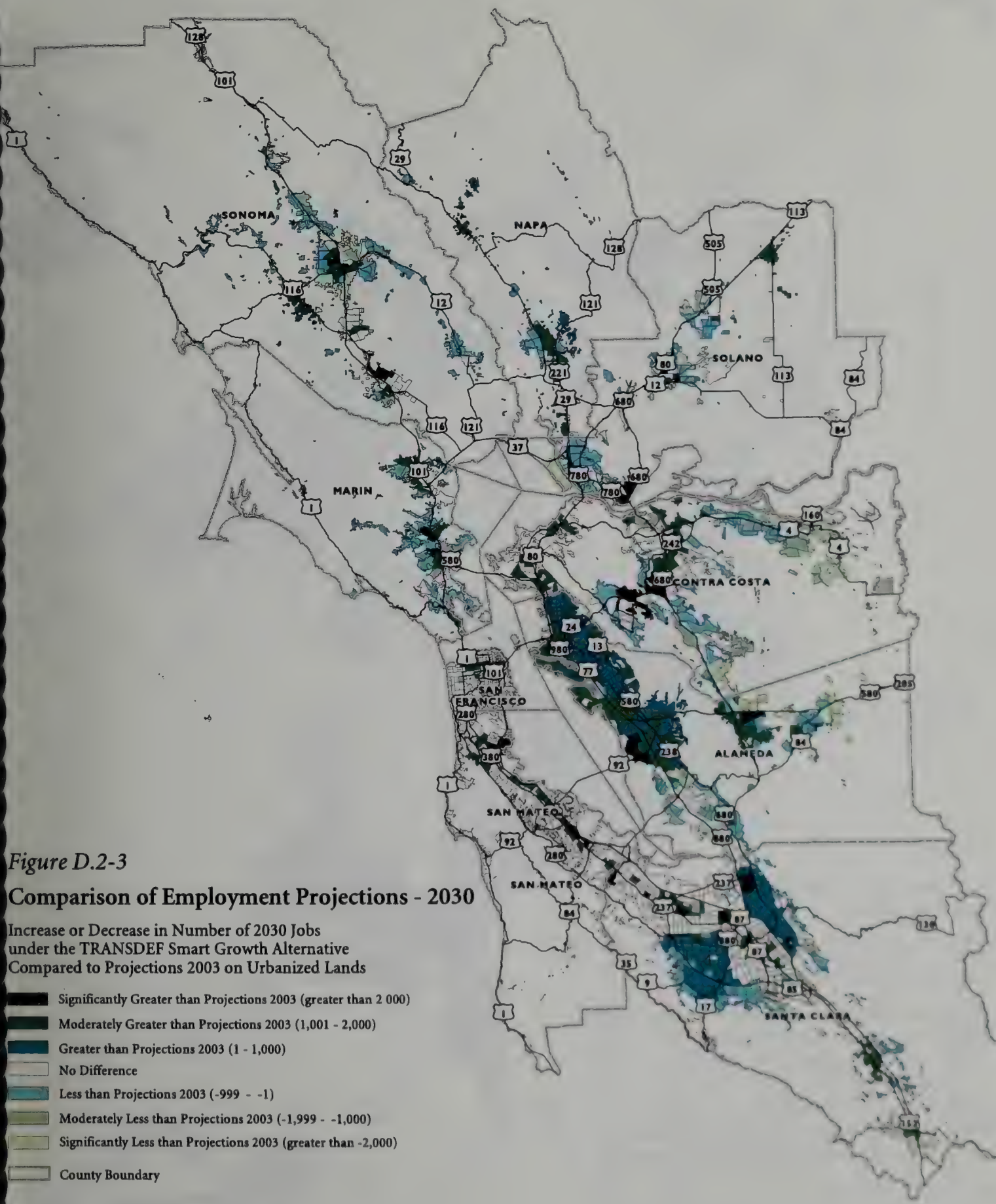


Figure D.2-3
Comparison of Employment Projections - 2030

Increase or Decrease in Number of 2030 Jobs
 under the TRANSDEF Smart Growth Alternative
 Compared to Projections 2003 on Urbanized Lands

- Significantly Greater than Projections 2003 (greater than 2,000)
- Moderately Greater than Projections 2003 (1,001 - 2,000)
- Greater than Projections 2003 (1 - 1,000)
- No Difference
- Less than Projections 2003 (-999 - -1)
- Moderately Less than Projections 2003 (-1,999 - -1,000)
- Significantly Less than Projections 2003 (greater than -2,000)
- County Boundary

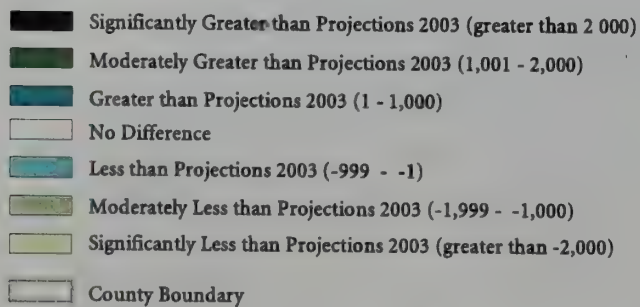
Source: ABAG's Projections 2003 and TRANSDEF, 2004.



Figure D.2-3 (a)

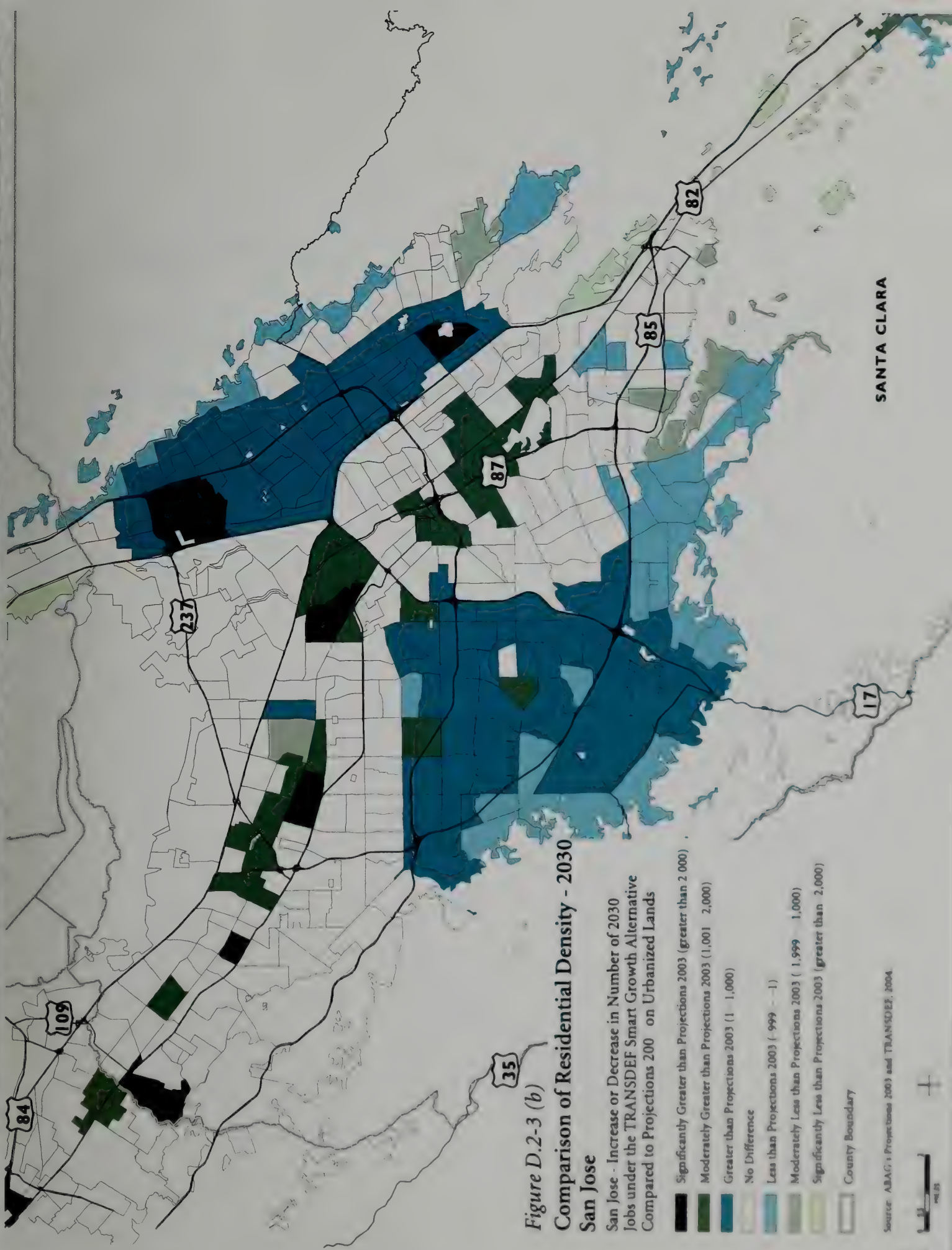
Comparison of Employment Projections - 2030 San Francisco

San Francisco - Increase or Decrease in Number of 2030 Jobs
under the TRANSDEF Smart Growth Alternative Compared to
Projections 2003 on Urbanized Lands



Source: ABAG's Projections 2003 and TRANSDEF, 2004.





Appendix E:

Summary Comparison of Projections 2003 & Projections 2002

Appendix E: Projections 2003 vs. Projections 2002

The purpose of this appendix is to present additional detailed information on the differences between the population, employment and land use information used in the 2001 RTP EIR ("Projections 2002") and the information used in this EIR ("Projections 2003"). The Transportation 2030 Plan uses Projections 2003, developed by the Association of Bay Area Governments (ABAG), for transportation demand analysis, modeling and related impact analyses, which are presented in this EIR. ABAG's Projections 2003 (P-2003) is based on a very different set of policy assumptions than previous series of the long-run economic-demographic forecasts which ABAG has been producing since 1973. Unlike previous Projections, such as Projections 2002 (P-2002), which are based on adopted land use plans from cities, counties, and agencies in the region, P-2003 is based on the ABAG's Regional Smart Growth Strategy/Regional Livability Footprint Project, briefly described below.

SMART GROWTH STRATEGY/REGIONAL LIVABILITY FOOTPRINT PROJECT

The Smart Growth Strategy/Regional Livability Footprint Project was developed by ABAG along with its other regional agency partners (including MTC, BAAQMD, BCDC, and SF Bay RWQCB) and a group of stakeholders known as the Bay Area Alliance for Sustainable Development. According to ABAG, "Smart Growth can best be described as development that revitalizes central cities and older suburbs, supports and enhances public transit, promotes walking and bicycling opportunities, and preserves open spaces and agricultural lands" (ABAG, 2004). The Regional Smart Growth Vision was created out of a two-year effort to establish principles and strategies for how the nine-county Bay Area can grow smarter and become more sustainable over the next 20 years and beyond.¹ The objectives were to minimize sprawl, provide adequate and affordable housing, improve mobility, protect environmental quality and preserve open space. A related objective of the project and the land use projections that results from it was to guide infrastructure investment decisions being made by MTC and other regional agencies.

With these objectives in mind, ABAG incorporated the Vision into its economic-demographic and land use projections. As a result, P-2003 assigns growth potential to local jurisdictions following approximately the pattern that the Smart Growth Vision intended. While these projections do not meet the numerical goals of the Vision, they do reflect a change in the prevailing patterns of development. To realize the Vision represented by P-2003, local jurisdictions will need to make changes in their general plans and zoning ordinances to increase density on infill sites and to allow residential development on commercial and industrial sites. Also, State and regional agencies will need to provide incentives and financial support for housing and business development.

¹ For more information about ABAG's Smart Growth Vision, see <http://www.abag.ca.gov/planning/smartgrowth/>

PROJECTIONS 2003 VS. PROJECTIONS 2002

Previous Projections, such as P-2002, do not assume implementation of Smart Growth policies. As such, unlike P-2003, P-2002 does not assume that State, local, or regional policy makers would change land use policies or other types of funding decisions in a way that would affect regional development patterns. It also does not assume any incremental funding to promote housing development, or any policy that would substitute for that type of funding.

At a more quantitative level, ABAG's Regional Smart Growth policy assumptions result in a higher number of housing units produced than under previous forecasting assumptions. It is estimated that by the year 2030, extending the previous forecast of P-2002 by five years, the policies provide 126,350 incremental housing units above previous forecasts and an additional 350,000 residents. This housing is also expected to provide a home for 214,100 more employed residents than the P-2002 base case forecast. This increase in employed residents is significant when compared to the number of jobs in the region, as it gives a rough estimate of the net interregional commute.

It is important to note, however, that P-2003 shows almost 59,600 additional jobs, which runs counter to the objectives of the Smart Growth Vision because it would exacerbate the jobs/housing imbalance, resulting in longer commutes. However, the change in jobs is a result of the incremental construction activity in the forecast, and the employment generated to meet the needs for goods and services required by the additional 350,000 residents of the region. Incremental jobs tend to be distributed in proportion to construction activity and population changes.

Tables E-1 to E-4 compare population, employment, employed residents, and households for 2000 and 2025 in MTC's 34 superdistricts and in each of the nine counties for P-2002 and P-2003. The differences are highlighted in the following sections.

COUNTY-BY-COUNTY COMPARISONS

At the county level, the general pattern, comparing Projections 2003 to Projections 2002, is a decrease in the population and jobs in the North Bay counties, and increases in population, jobs, housing and workers in the central Bay Area. Santa Clara shows the largest numerical increase in population, jobs, housing and workers; followed by San Francisco and Alameda Counties. Contra Costa shows the least differences comparing Projections 2002 to Projections 2003.

The largest numerical decreases in population, jobs, housing and workers are in Sonoma County. Solano County shows slight decreases in population, housing and resident workers but a slight increase in the number of jobs. Napa County consistently shows the highest percentage decreases in population, jobs, housing, and workers.

The most significant differences are seen in projections for the City and County of San Francisco, which, under the assumptions of P-2003, is projected to absorb 74,574 more people (9.1 percent) and 32,838 more households (9.4 percent) by year 2025. That amounts to a population increase

of 151,600 and an increase in the number of households of 52,134 between 2000 and 2025; a rate of growth much higher than previously anticipated by P-2002.

The largest numerical decreases in population, jobs, housing and workers are in Sonoma County. Solano County shows a slightly lower rate in the growth of population, housing and resident workers but a slightly higher rate in the growth of the number of jobs. Napa County consistently shows the lowest rate of growth in population, jobs, housing, and workers.

SUPERDISTRICT-LEVEL COMPARISONS

Three sub-county superdistricts show the most significant increase in population, workers and households:

- San Francisco Mission District, which gains 16.1 percent population in Projections 2003 relative to P-2002;
- Central San Jose, which gains 16.0 percent population in P-2003 relative to P-2002; and
- Oakland/Alameda which adds 9.4 percent population in P-2003 relative to P-2002.

The most significant decrease in population, workers and households relative to P-2002 is in Northern Solano County (superdistrict #26).

The four districts with the greatest increase in total jobs, P-2003 relative to P- 2002, are:

- Central San Jose (+30,600 jobs);
- Greater Downtown San Francisco (+15,400 jobs);
- Hayward/San Leandro (+9,900 jobs); and
- Fremont/Union City (+9,100 jobs).

The districts with the largest decrease in total jobs relative to P-2002 are:

- Gilroy/Morgan Hill (-7,000 jobs);
- Central Marin (-6,100 jobs); and
- Southern San Mateo County (-5,800 jobs).

ZONE-LEVEL COMPARISONS

Of MTC's 1,454 regional travel analysis zones, 446 zones show lower population growth (from P-2002 to P-2003), 13 zones show no change in total population, and 995 zones show an increase in total population growth. A listing of the top twenty and bottom twenty zones in terms of difference in total population, P-2003 less P-2002, is shown in Table E-5. The top zones in terms of reduced population growth are in north Fairfield and Dougherty Valley. The top zones in terms of increased population growth are in Coyote Valley, one of our Golden Triangle zones in Silicon Valley, and a zone in south central San Jose.

Turning to job growth, 543 zones show reduced total employment growth (from P-2002 to P-2003), 7 zones show no change in total employment, and 904 zones show an increase in total employment growth. Table E-6 shows the top twenty and bottom twenty zones in terms of difference in total employment. The top zones in terms of reduced employment growth are the Mountain View Shoreline area (including Moffett Field); the Stanford Industrial Park and the Hacienda Business Park. The top zones in terms of increased employment growth are the Lockheed – Sunnyvale Bayside neighborhood along the Tasman LRT line; one of the San Jose Central Business District (CBD) zones; and a south central San Jose zone.

**Table I: Compare Total Population by MTC 34 Superdistrict & County, 2025
ABAG Projections 2003 compared to Projections 2002**

Superdistrict	2000	P-2002 2025	P-2003 2025	Difference P-03 – P-02	% Difference P03 - P02
1 Downtown San Francisco	125,742	139,041	152,599	152,599	109.8%
2 Richmond District	206,546	213,995	219,161	219,161	102.4%
3 Mission District	312,465	326,581	379,303	379,303	116.1%
4 Sunset District	131,980	135,582	138,710	138,710	102.3%
5 Daly City/San Bruno	287,439	322,479	333,043	10,564	3.3%
6 San Mateo/Burlingame	201,522	237,819	235,927	-1,892	-0.8%
7 Redwood City/Menlo Park	218,202	253,002	265,453	12,451	4.9%
8 Palo Alto/Los Altos	168,940	190,322	195,639	5,317	2.8%
9 Sunnyvale/Mountain View	225,943	282,614	309,078	26,464	9.4%
10 Saratoga/Cupertino	309,254	352,993	348,417	-4,576	-1.3%
11 Central San Jose	284,443	379,201	439,905	60,704	16.0%
12 Milpitas/East San Jose	381,056	461,982	493,082	31,100	6.7%
13 South San Jose/Almaden	215,121	247,350	245,937	-1,413	-0.6%
14 Gilroy/Morgan Hill	97,828	149,737	143,709	-6,028	-4.0%
15 Livermore/Pleasanton	171,652	265,178	266,314	1,136	0.4%
16 Fremont/Union City	311,764	370,158	386,957	16,799	4.5%
17 Hayward/San Leandro	351,568	396,672	410,183	13,511	3.4%
18 Oakland/Alameda	454,351	506,115	553,493	47,378	9.4%
19 Berkeley/Albany	154,406	176,078	178,831	2,753	1.6%
20 Richmond/El Cerrito	242,439	272,177	290,892	18,715	6.9%
21 Concord/Martinez	221,068	265,632	271,575	5,943	2.2%
22 Walnut Creek/Lamorinda	139,416	163,524	161,288	-2,236	-1.4%
23 Danville/San Ramon	114,919	165,398	158,630	-6,768	-4.1%
24 Antioch/Pittsburg	230,974	343,169	334,006	-9,163	-2.7%
25 Vallejo/Benicia	146,849	177,609	186,279	8,670	4.9%
26 Fairfield/Vacaville	247,693	393,691	370,908	-22,783	-5.8%
27 Napa	87,085	117,144	110,464	-6,680	-5.7%
28 St. Helena/Calistoga	37,194	47,256	40,940	-6,316	-13.4%
29 Petaluma/Sonoma	160,818	199,047	188,724	-10,323	-5.2%
30 Santa Rosa/Sebastopol	219,409	282,096	270,298	-11,798	-4.2%
31 Healdsburg/Cloverdale	78,387	108,657	98,483	-10,174	-9.4%
32 Novato	54,506	67,479	67,568	89	0.1%
33 San Rafael	103,658	117,028	113,879	-3,149	-2.7%
34 Mill Valley/Sausalito	89,125	96,933	98,191	1,258	1.3%
Bay Area	6,783,762	8,223,739	8,457,866	234,127	2.8%
San Francisco	776,733	815,199	889,773	74,574	9.1%
San Mateo	707,163	813,300	834,423	21,123	2.6%
Santa Clara	1,682,585	2,064,199	2,175,767	111,568	5.4%
Alameda	1,443,741	1,714,201	1,795,778	81,577	4.8%
Contra Costa	948,816	1,209,900	1,216,391	6,491	0.5%
Solano	394,542	571,300	557,187	-14,113	-2.5%
Napa	124,279	164,400	151,404	-12,996	-7.9%
Sonoma	458,614	589,800	557,505	-32,295	-5.5%
Marin	247,289	281,440	279,638	-1,802	-0.6%

Table 2: Total Employment by MTC 34 Superdistrict & County, 2025 ABAG Projections 2003 compared to Projections 2002

	<i>Superdistrict</i>	<i>2000</i>	<i>P-2002 2025</i>	<i>P-2003 2025</i>	<i>Difference P-03 – P-02</i>	<i>% Difference P-03 – P-02</i>
1	Downtown San Francisco	386,582	459,574	474,992	15,418	3.4%
2	Richmond District	81,534	97,975	98,141	166	0.2%
3	Mission District	138,115	179,811	178,851	-960	-0.5%
4	Sunset District	28,216	33,152	34,063	911	2.7%
5	Daly City/San Bruno	163,295	208,005	215,917	7,912	3.8%
6	San Mateo/Burlingame	111,981	138,551	140,860	2,309	1.7%
7	Redwood City/Menlo Park	120,629	155,434	149,678	-5,756	-3.7%
8	Palo Alto/Los Altos	179,489	199,978	200,189	211	0.1%
9	Sunnyvale/Mountain View	372,465	466,237	460,962	-5,275	-1.1%
10	Saratoga/Cupertino	145,643	183,096	178,214	-4,882	-2.7%
11	Central San Jose	161,034	203,974	234,557	30,583	15.0%
12	Milpitas/East San Jose	120,309	160,685	164,596	3,911	2.4%
13	South San Jose/Almaden	71,208	89,363	94,778	5,415	6.1%
14	Gilroy/Morgan Hill	42,200	92,490	85,508	-6,982	-7.5%
15	Livermore/Pleasanton	119,075	192,821	188,875	-3,946	-2.0%
16	Fremont/Union City	145,557	206,084	215,201	9,117	4.4%
17	Hayward/San Leandro	163,593	200,572	210,460	9,888	4.9%
18	Oakland/Alameda	216,170	287,537	291,806	4,269	1.5%
19	Berkeley/Albany	107,279	127,175	122,270	-4,905	-3.9%
20	Richmond/El Cerrito	76,291	100,545	104,419	3,874	3.9%
21	Concord/Martinez	104,518	133,920	136,454	2,534	1.9%
22	Walnut Creek/Lamorinda	82,823	99,730	96,279	-3,451	-3.5%
23	Danville/San Ramon	53,803	79,013	79,334	321	0.4%
24	Antioch/Pittsburg	43,670	82,273	88,963	6,690	8.1%
25	Vallejo/Benicia	43,881	63,355	66,482	3,127	4.9%
26	Fairfield/Vacaville	79,330	123,934	121,953	-1,981	-1.6%
27	Napa	41,453	64,749	60,302	-4,447	-6.9%
28	St. Helena/Calistoga	25,381	28,300	26,774	-1,526	-5.4%
29	Petaluma/Sonoma	61,085	94,511	94,748	237	0.3%
30	Santa Rosa/Sebastopol	123,534	182,110	179,595	-2,515	-1.4%
31	Healdsburg/Cloverdale	20,602	34,382	29,360	-5,022	-14.6%
32	Novato	27,878	44,780	43,864	-916	-2.0%
33	San Rafael	52,911	68,529	62,457	-6,072	-8.9%
34	Mill Valley/Sausalito	42,175	49,964	51,911	1,947	3.9%
	Bay Area	3,753,709	4,932,591	4,982,813	50,222	1.0%
	San Francisco	634,447	770,512	786,047	15,535	2.0%
	San Mateo	395,905	501,990	506,455	4,465	0.9%
	Santa Clara	1,092,348	1,395,823	1,418,804	22,981	1.6%
	Alameda	751,674	1,014,189	1,028,612	14,423	1.4%
	Contra Costa	361,105	495,481	505,449	9,968	2.0%
	Solano	123,211	187,289	188,435	1,146	0.6%
	Napa	66,834	93,049	87,076	-5,973	-6.4%
	Sonoma	205,221	311,003	303,703	-7,300	-2.3%
	Marin	122,964	163,273	158,232	-5,041	-3.1%

Table 3: Employed Residents by MTC 34 Superdistrict & County, 2025 ABAG Projections 2003 compared to Projections 2002

		2000	2025	2025	P-03 – P-02	
Superdistrict		P-2002	P-2003	Difference	% Difference	P-03 - P02
1	Downtown San Francisco	73,148	82,162	91,583	9,421	11.5%
2	Richmond District	134,084	140,604	146,156	5,552	3.9%
3	Mission District	167,499	178,038	205,791	27,753	15.6%
4	Sunset District	70,119	72,898	75,771	2,873	3.9%
5	Daly City/San Bruno	160,520	183,236	189,284	6,048	3.3%
6	San Mateo/Burlingame	121,582	145,539	144,638	-901	-0.6%
7	Redwood City/Menlo Park	120,981	142,115	149,383	7,268	5.1%
8	Palo Alto/Los Altos	102,012	116,212	121,808	5,596	4.8%
9	Sunnyvale/Mountain View	143,369	177,911	195,160	17,249	9.7%
10	Saratoga/Cupertino	187,688	216,756	214,532	-2,224	-1.0%
11	Central San Jose	147,350	199,292	233,432	34,140	17.1%
12	Milpitas/East San Jose	195,876	244,257	259,651	15,394	6.3%
13	South San Jose/Almaden	132,357	154,392	154,026	-366	-0.2%
14	Gilroy/Morgan Hill	50,419	78,080	75,391	-2,689	-3.4%
15	Livermore/Pleasanton	91,144	162,464	161,842	-622	-0.4%
16	Fremont/Union City	163,435	221,610	228,837	7,227	3.3%
17	Hayward/San Leandro	167,848	216,587	223,239	6,652	3.1%
18	Oakland/Alameda	193,156	241,343	283,536	42,193	17.5%
19	Berkeley/Albany	82,299	104,697	109,950	5,253	5.0%
20	Richmond/El Cerrito	115,013	141,906	152,153	10,247	7.2%
21	Concord/Martinez	123,127	161,321	165,715	4,394	2.7%
22	Walnut Creek/Lamorinda	72,220	93,386	91,806	-1,580	-1.7%
23	Danville/San Ramon	64,440	103,428	99,191	-4,237	-4.1%
24	Antioch/Pittsburg	109,098	177,459	172,858	-4,601	-2.6%
25	Vallejo/Benicia	67,583	95,702	99,270	3,568	3.7%
26	Fairfield/Vacaville	111,934	206,498	195,329	-11,169	-5.4%
27	Napa	46,778	62,927	59,746	-3,181	-5.1%
28	St. Helena/Calistoga	20,333	25,873	22,054	-3,819	-14.8%
29	Petaluma/Sonoma	83,406	114,185	106,921	-7,264	-6.4%
30	Santa Rosa/Sebastopol	108,429	152,524	146,516	-6,008	-3.9%
31	Healdsburg/Cloverdale	37,472	56,491	51,064	-5,427	-9.6%
32	Novato	32,043	40,733	40,773	40	0.1%
33	San Rafael	58,564	67,914	65,925	-1,989	-2.9%
34	Mill Valley/Sausalito	50,348	56,553	57,199	646	1.1%
Bay Area		3,605,674	4,635,093	4,790,530	155,437	3.4%
San Francisco		444,850	473,702	519,301	45,599	9.6%
San Mateo		403,083	470,890	483,305	12,415	2.6%
Santa Clara		959,071	1,186,900	1,254,000	67,100	5.7%
Alameda		697,882	946,701	1,007,404	60,703	6.4%
Contra Costa		483,898	677,500	681,723	4,223	0.6%
Solano		179,517	302,200	294,599	-7,601	-2.5%
Napa		67,111	88,800	81,800	-7,000	-7.9%
Sonoma		229,307	323,200	304,501	-18,699	-5.8%
Marin		140,955	165,200	163,897	-1,303	-0.8%

Table 4: Total Households by MTC 34 Superdistrict & County, 2025 ABAG Projections 2003 compared to Projections 2002

		P-2002	P-2003	Difference	% Difference	
	Superdistrict	2000	2025	2025	P-03 – P-02	P-03 – P-02
1	Downtown San Francisco	68,139	75,010	84,571	9,561	12.7%
2	Richmond District	102,163	106,289	109,419	3,130	2.9%
3	Mission District	110,434	117,143	135,868	18,725	16.0%
4	Sunset District	48,961	50,551	51,973	1,422	2.8%
5	Daly City/San Bruno	96,371	106,687	110,648	3,961	3.7%
6	San Mateo/Burlingame	80,400	93,749	93,135	-614	-0.7%
7	Redwood City/Menlo Park	77,333	88,484	92,732	4,248	4.8%
8	Palo Alto/Los Altos	68,068	75,091	80,133	5,042	6.7%
9	Sunnyvale/Mountain View	88,679	110,664	122,652	11,988	10.8%
10	Saratoga/Cupertino	116,842	133,646	132,479	-1,167	-0.9%
11	Central San Jose	92,049	124,096	142,467	18,371	14.8%
12	Milpitas/East San Jose	99,420	123,694	130,153	6,459	5.2%
13	South San Jose/Almaden	71,320	82,775	81,847	-928	-1.1%
14	Gilroy/Morgan Hill	29,484	45,200	43,593	-1,607	-3.6%
15	Livermore/Pleasanton	60,487	93,257	93,440	183	0.2%
16	Fremont/Union City	99,510	115,867	120,541	4,674	4.0%
17	Hayward/San Leandro	122,610	135,797	140,772	4,975	3.7%
18	Oakland/Alameda	172,049	189,836	208,910	19,074	10.0%
19	Berkeley/Albany	68,709	76,921	78,539	1,618	2.1%
20	Richmond/El Cerrito	85,492	97,457	103,863	6,406	6.6%
21	Concord/Martinez	83,827	101,635	103,754	2,119	2.1%
22	Walnut Creek/Lamorinda	59,110	70,324	69,559	-765	-1.1%
23	Danville/San Ramon	41,471	59,626	58,721	-905	-1.5%
24	Antioch/Pittsburg	74,229	114,468	109,012	-5,456	-4.8%
25	Vallejo/Benicia	50,961	62,362	64,717	2,355	3.8%
26	Fairfield/Vacaville	79,442	128,968	121,734	-7,234	-5.6%
27	Napa	31,209	43,007	40,554	-2,453	-5.7%
28	St. Helena/Calistoga	14,193	18,443	15,837	-2,606	-14.1%
29	Petaluma/Sonoma	60,448	74,834	71,402	-3,432	-4.6%
30	Santa Rosa/Sebastopol	82,438	106,350	101,621	-4,729	-4.4%
31	Healdsburg/Cloverdale	29,517	41,226	36,978	-4,248	-10.3%
32	Novato	21,176	26,231	26,251	20	0.1%
33	San Rafael	41,527	46,844	45,502	-1,342	-2.9%
34	Mill Valley/Sausalito	37,947	41,455	42,035	580	1.4%
Bay Area		2,466,015	2,977,987	3,065,412	87,425	2.9%
San Francisco		329,697	348,993	381,831	32,838	9.4%
San Mateo		254,104	288,920	296,515	7,595	2.6%
Santa Clara		565,862	695,166	733,324	38,158	5.5%
Alameda		523,365	611,678	642,202	30,524	5.0%
Contra Costa		344,129	443,510	444,909	1,399	0.3%
Solano		130,403	191,330	186,451	-4,879	-2.6%
Napa		45,402	61,450	56,391	-5,059	-8.2%
Sonoma		172,403	222,410	210,001	-12,409	-5.6%
Marin		100,650	114,530	113,788	-742	-0.6%

**Table 5: Largest Differences in Total Population, Projections 2003 vs Projections 2002
Top 20 / Bottom 20 MTC Travel Analysis Zones (I 454 Zone System)**

Rank	TAZI 454	Description	County	Year 2000	Year 2025, Proj 2002	Year 2025, Proj 2003	Population Difference
1	1270	North Fairfield	Solano	9,746	24,998	16,834	-8,164
2	1176	Dougherty Valley	Contra Costa	16,151	37,313	29,214	-8,099
3	1248	West Fairfield	Solano	5,204	14,686	8,821	-5,865
4	1178	Brentwood	Contra Costa	21,608	45,320	39,532	-5,788
5	729	North Livermore	Alameda	465	13,703	8,245	-5,458
6	1290	Rio Vista	Solano	5,733	24,604	19,294	-5,310
7	1177	Byron	Contra Costa	10,882	20,045	14,989	-5,056
8	720	North Livermore	Alameda	3,481	16,776	11,745	-5,031
9	1279	North Vacaville	Solano	3,451	10,996	6,501	-4,495
10	607	Milpitas	Santa Clara	4,382	14,542	10,064	-4,478
11	1238	Mare Island	Solano	149	7,380	3,143	-4,237
12	710	Gilroy	Santa Clara	5,302	11,136	7,099	-4,037
13	1271	Vacaville	Solano	11,959	21,289	17,313	-3,976
14	1348	South Santa Rosa	Sonoma	7,939	13,314	9,633	-3,681
15	297	Half Moon Bay	San Mateo	4,783	8,839	5,570	-3,269
16	436	Santa Clara	Santa Clara	3,627	7,632	4,414	-3,218
17	1286	Green Valley	Solano	4,206	10,021	6,813	-3,208
18	1297	North Napa	Napa	7,970	13,034	10,040	-2,994
19	1181	Bethel Island	Contra Costa	3,355	8,590	5,640	-2,950
20	712	North Gilroy	Santa Clara	4,293	7,969	5,081	-2,888
1435	578	Central San Jose	Santa Clara	9,263	10,405	12,878	2,473
1436	109	South of Market	San Francisco	506	2,374	4,864	2,490
1437	562	Central San Jose	Santa Clara	4,980	5,933	8,513	2,580
1438	553	Central San Jose	Santa Clara	4,392	7,267	9,861	2,594
1439	17	South of Market	San Francisco	4,126	6,237	8,918	2,681
1440	466	Santa Clara	Santa Clara	3,872	4,282	7,054	2,772
1441	113	Potrero Hill	San Francisco	5,140	5,320	8,202	2,882
1442	140	Bayview	San Francisco	4,028	4,174	7,076	2,902
1443	778	Central Fremont	Alameda	11,485	12,725	15,632	2,907
1444	730	Camp Parks	Alameda	7,600	11,302	14,530	3,228
1445	605	Berryessa	Santa Clara	9,271	10,306	13,613	3,307
1446	568	S. Central San Jose	Santa Clara	7,810	8,685	12,094	3,409
1447	139	Bayview	San Francisco	5,083	5,212	8,905	3,693
1448	435	North San Jose	Santa Clara	2,053	2,757	6,728	3,971
1449	875	Coliseum BART	Alameda	3,327	3,565	7,859	4,294
1450	142	Bayview	San Francisco	411	487	4,892	4,405
1451	410	Golden Triangle	Santa Clara	3,625	6,510	13,589	7,079
1452	563	S. Central San Jose	Santa Clara	8,153	9,437	18,816	9,379
1453	412	Golden Triangle	Santa Clara	5,914	13,285	22,714	9,429
1454	697	Coyote Valley	Santa Clara	1,783	1,963	14,708	12,745

**Table 6: Largest Differences in Total Employment, Projections 2003 vs Projections 2002
Top 20 / Bottom 20 MTC Travel Analysis Zones (1454 Zone System)**

Rank	TAZ1454	Description	County	Year 2000	Year 2002, Proj 2002	Year 2002, Proj 2003	Employment Difference
1	401	Mountain View Shoreline	Santa Clara	10,222	23,051	12,501	-10,550
2	354	Stanford Industrial	Santa Clara	14,035	20,084	14,649	-5,435
3	742	Hacienda Bus. Park	Alameda	19,435	31,959	27,585	-4,374
4	1292	American Canyon	Napa	5,109	14,989	10,919	-4,070
5	1252	Travis AFB	Solano	14,416	22,726	19,101	-3,625
6	111	East Portrero	San Francisco	6,889	14,874	11,672	-3,202
7	212	South SF	San Mateo	39,734	50,165	47,112	-3,053
8	1341	Rohnert Park	Sonoma	2,258	6,515	3,627	-2,888
9	1429	San Rafael	Marin	6,476	10,020	7,461	-2,559
10	84	Haight-Ashbury	San Francisco	1,262	4,052	1,533	-2,519
11	706	Gilroy	Santa Clara	3,020	9,963	7,539	-2,424
12	1397	Healdsburg	Sonoma	2,969	6,492	4,156	-2,336
13	1238	Mare Island	Solano	4,207	10,087	7,757	-2,330
14	991	West Berkeley	Alameda	18,590	23,820	21,560	-2,260
15	142	Bayview	San Francisco	24,229	29,900	27,645	-2,255
16	1122	Buchanan Field	Contra Costa	20,048	28,832	26,754	-2,078
17	432	Santa Clara	Santa Clara	22,226	28,316	26,326	-1,990
18	768	Newark	Alameda	4,784	8,485	6,520	-1,965
19	730	Camp Parks	Alameda	3,721	13,960	12,059	-1,901
20	964	Alameda West End	Alameda	378	5,330	3,460	-1,870
1435	1189	Antioch Industrial	Contra Costa	5,293	8,409	10,053	1,644
1436	1290	Rio Vista	Solano	2,601	3,766	5,488	1,722
1437	527	Tamien San Jose	Santa Clara	2,479	3,363	5,086	1,723
1438	1361	Downtown Santa Rosa	Sonoma	14,174	18,561	20,315	1,754
1439	234	San Bruno	San Mateo	6,363	8,661	10,436	1,775
1440	856	Bayfair San Leandro	Alameda	1,369	1,658	3,556	1,898
1441	9	Civic Center	San Francisco	12,490	12,871	14,801	1,930
1442	355	Stanford	Santa Clara	36,430	36,636	38,695	2,059
1443	718	East Livermore	Alameda	6,947	9,651	11,828	2,177
1444	1421	North San Rafael	Marin	7,196	6,375	8,572	2,197
1445	1179	Brentwood	Contra Costa	5,467	10,853	13,130	2,277
1446	5	Union Square	San Francisco	34,561	37,833	40,190	2,357
1447	12	South of Market	San Francisco	25,086	28,926	31,403	2,477
1448	1342	Rohnert Park	Sonoma	3,087	2,080	4,906	2,826
1449	407	Golden Triangle	Santa Clara	13,584	14,229	17,158	2,929
1450	801	Union City BART	Alameda	1,815	3,557	6,739	3,182
1451	539	W. Central San Jose	Santa Clara	8,374	10,190	13,684	3,494
1452	563	S. Central San Jose	Santa Clara	11,134	12,359	16,991	4,632
1453	558	San Jose CBD	Santa Clara	20,422	24,615	29,326	4,711
1454	402	Lockheed-Sunnyvale	Santa Clara	11,524	3,066	15,388	12,322

Appendix F:

Biological Resources Summary

Appendix F: Biological Resources Summary

BIOLOGICAL RESOURCES REGULATORY SETTING

FEDERAL REGULATIONS

National Environmental Policy Act

The National Environmental Policy Act of 1969 (NEPA) was one of the first laws to establish a broad national framework for protecting the environment. Its purposes include: "To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; [and] to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man." NEPA assures that all branches of government give proper consideration to the environment prior to undertaking major federal actions that could significantly affect the environment.

Environmental assessments (EAs) and environmental impact statements (EISs), which assess the likelihood of impacts from alternative courses of action, are required from all federal agencies and are the most visible NEPA requirements. The documents must include discussion of the environmental impacts of the alternatives, including the proposed action; any adverse environmental effects that cannot be avoided should the proposal be implemented; the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity; and any irreversible or irretrievable commitments of resources that would be involved in the proposal should it be implemented.

Federal Endangered Species Act

Under the Federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 United States Code [USC] 1533[c]). Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed or proposed species may be present in the project region, and whether the proposed project would result in a "take"¹ of such species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA, or result in

¹ "Take," as defined in Section 9 of the FESA, is broadly defined to include intentional or accidental "harassment" or "harm" to wildlife. "Harass" is further defined by the U.S. Fish and Wildlife Service as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, and sheltering. "Harm" is defined as an act which actually kills or injures wildlife. This may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3][4]). Project-related impacts to these species or their habitats would be considered significant in this EIR. The “take” prohibition of FESA applies to any action that would adversely affect a single member of an endangered or threatened species.

Proposed and Candidate Species for Listing as Endangered or Threatened

Proposed species are granted limited protection under FESA and must be addressed in Biological Assessments (under Section 7 of the act); proposed species otherwise have no protection from “take” under federal law, except emergency-listed species.² Candidate species are afforded no protection under the act. The U.S. Fish and Wildlife Service (USFWS) typically reviews project plans and species information to determine the effects of federal actions on a proposed or candidate species. Any recommendations to modify or abandon the project and/or undertake protective measures for proposed or candidate species are not mandatory on the federal agency conferring with the USFWS. The USFWS recommends that candidate species and species proposed for listing also be considered in informal consultation during a project’s environmental review. This is recommended because, in the event that a species were to be listed during the design or construction phases of a project (i.e., before occupancy), new studies and restrictions could be imposed.

Migratory Bird Treaty Act and Bald Eagle Protection Act

The federal Migratory Bird Treaty Act (16 USC, Section 703, Supplement I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

The federal Bald Eagle Protection Act prohibits persons within the United States (or other places subject to U.S. jurisdiction) from “possessing, selling, purchasing, offering to sell, transporting, exporting or importing any bald eagle or any golden eagle, alive or dead, or any part, nest or egg thereof.”

Clean Water Act

The Clean Water Act is a 1977 amendment to the Federal Water Pollution Control Act of 1972, which set the basic structure for regulating discharges of pollutants to waters of the United States. Although the purpose of the act is primarily to maintain water quality for both human and environmental benefits, regulations developed pursuant to this act deal extensively with permitting of actions in wetlands. These regulations provide more specific protection for wetland habitats—most of which are important ecologically—than any other laws. The U.S. Environmental Protection Agency (EPA) has primary authority under the Clean Water Act to set

² Note, however, that protection from “take” begins at this stage under state law.

standards for water quality and for effluents, but the U.S. Army Corps of Engineers (Corps) has responsibility for permitting dredge and fill in wetlands.

Marine Protection, Research, and Sanctuaries Act of 1972

This legislation allowed for establishment of marine sanctuaries, such as the Monterey Bay National Marine Sanctuary (established in 1992) off the coast of the San Francisco Peninsula. This part of the act provides increased protection from a variety of human influences on the marine resources within the sanctuary. Among its important uses, the Monterey Bay National Marine Sanctuary provides an essential fishery, recreational opportunities, and habitat for a myriad of rare and common shorebirds, marine mammals, and other wildlife. Section 103 of this act regulates the transportation of dredged materials in ocean waters. This act is implemented through a permit granted by the Corps, which uses the EPA's ocean disposal criteria to regulate the disposal of dredged materials.

Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. Under this act, the Corps must authorize any excavation or deposition of materials into such waters, or for any work that could affect the course, location, condition, or capacity of such waters.

Coastal Zone Management Act of 1972

This act established the authority for creating coastal zone management areas and the California Coastal Commission. Coastal zone management criteria are established by the Commission and must be followed by federal, other government, or private entities performing any activities within the coastal zone.

FEDERAL AGENCIES RESPONSIBLE FOR MANAGING BIOLOGICAL RESOURCES

U.S. Fish and Wildlife Service

The mission of USFWS is to conserve, protect, and enhance the nation's fish and wildlife and their habitats for the continuing benefit of people. USFWS programs include management of wildlife sanctuaries, regulation of international and intrastate commerce related to wildlife, management of migratory species that move between states, wildlife management research, and identification and protection of endangered species.

State Regulations

California Environmental Quality Act

The intent of the California Environmental Quality Act (CEQA) is to maintain "high-quality ecological systems and the general welfare of the people of the state." It is the policy of the state to "prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and

wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history.” CEQA forbids agencies from approving projects with significant adverse impacts when feasible alternatives or feasible mitigation measures can substantially lessen such impacts.³

CEQA directs each state agency to consult with the California Department of Fish and Game (CDFG) on any project an agency initiates that is not statutorily or categorically exempt from CEQA. CEQA Guidelines (Section 15065a) indicate that impacts to rare, threatened, or endangered plants or animals are significant. This finding of significance can be applied directly to state- and federally listed species. Impacts to other species that may generally meet these criteria but are not officially listed may be considered significant by the lead agency (for an EIR), depending on the applicability of other laws (e.g., Migratory Bird Treaty Act) and the discretion of the agency. The CDFG interprets Lists 1A, 1B, and 2 of the California Native Plant Society’s Inventory of Rare and Endangered Vascular Plants of California to consist of plants that, in a majority of cases, would qualify for listing as rare, threatened, or endangered. However, the determination of whether an impact is significant is a function of the lead agency, absent the protection of other laws. Projects subject to CEQA review must specifically address the potential impact of the listed species and provide mitigation measures, if the impact is significant.

California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFG has the responsibility for maintaining a list of threatened and endangered species (California Fish and Game Code 2070). The CDFG also maintains a list of “candidate species,” which are species formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. In addition, CDFG maintains lists of “species of special concern,” which serve as “watch lists.” Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present on the project site and determine whether the proposed project could have a potentially significant impact on such species. In addition, the CDFG encourages informal consultation on any proposed project that may impact a candidate species. Project-related impacts to species on the CESA endangered or threatened lists would be considered significant in this EIR. Impacts to “species of concern” would be considered significant under certain circumstances, discussed below.

³ CEQA also provides that a project might be approved in spite of residual, unmitigated significant impacts, by adoption of a statement of overriding social and economic considerations in situations where mitigations or alternatives are deemed infeasible.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (NPPA), which directed the CDFG to carry out the legislature's intent to "preserve, protect, and enhance endangered plants in this state." The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. The California Endangered Species Act expanded upon the original NPPA and enhanced legal protection for plants. CESA established threatened and endangered species categories, and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, there are three listing categories for plants in California: rare, threatened, and endangered.

California Coastal Act

The California Coastal Commission was established by voter initiative in 1972 (Proposition 20) and made permanent by the legislature in 1976. The mission of the Commission, as the lead agency responsible for carrying out California's coastal management program, is to plan for and regulate development in the coastal zone consistent with the policies of the California Coastal Act. The Commission is also one of two designated state coastal management agencies established for the purpose of administering the federal Coastal Zone Management Act in California. The Bay Conservation and Development Commission (BCDC) has authority over federal activities and federally licensed or assisted activities within San Francisco Bay, many of which are not otherwise subject to state control. The California Coastal Commission has the same authority over federal activities and federally licensed or assisted activities elsewhere in the California coastal zone.

The basic goals of the state for the coastal zone are to:

- Protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources;
- Assure orderly, balanced use and conservation of coastal zone resources, taking into account the social and economic needs of the people of the state;
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resource conservation principles and constitutionally protected rights of private property owners;
- Assure priority for coastal-dependent and coastal-related development over other development on the coast; and
- Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

State Agencies Responsible for Managing Biological Resources

California Department of Fish and Game

The mandate of CDFG is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. In particular, CDFG is required under CESA, NPPA, CEQA, and the Natural Community Conservation Planning Act to conserve species through listing, habitat acquisition and protection, review of local land use planning, multi-species conservation planning, stewardship, recovery, research, and education.

California Coastal Commission

The coastal zone generally extends three miles seaward and about 1,000 yards inland. In particularly important and generally undeveloped areas where there can be considerable impact on the coastline from inland development, the coastal zone extends to a maximum of five miles inland from the mean high-tide line. In developed urban areas, the coastal zone extends substantially less than 1,000 yards inland. In order to carry out the policies of the Coastal Act, each of the 73 cities and counties in the coastal zone is required to prepare a local coastal program for the portion of its jurisdiction within the coastal zone and to submit the program to the Commission for certification. California Coastal Commission offices serving the Bay Area and central coast are located in San Francisco and Santa Cruz, respectively.

The California Coastal Commission manages protection of biological resources through a permitting process for all projects in the coastal zone. The Coastal Commission has unusually broad authority to regulate development in the coastal zone, and a permit is required for any project that might change the intensity of land use in the coastal zone. For example, a project that would require a building or grading permit from a city or county would also require a permit from the Coastal Commission. Other projects, such as major vegetation clearing or subdividing, would require a permit from the Commission. The Coastal Commission reviews applications before it to determine whether the project would substantially change any existing biological resources, including biodiversity, and to consider the net effects of the project on rare and endangered species.

California Department of Parks and Recreation

The California Department of Parks and Recreation provides sites for a variety of recreational and outdoor activities. Natural resource management and protection is also a part of the mission of Department. Park designations such as natural preserve, state park, state reserve, and state wilderness indicate that the area has outstanding natural features. By contrast, a designated state historic preserve, state recreation area, state beach, and state vehicular recreation area indicates the state has placed a higher priority on historic or recreational activities, although they may contain areas designated and protected for their natural features. State parks adjacent to transportation corridors include Olompali State Park and Marin Headlands State Park in Marin County, and the proposed Eastshore State Park between the Bay Bridge in Oakland to Marina Bay in Richmond in Alameda and Contra Costa Counties.

Biological Resources Protected by Statute and Policy

Special-Status Natural Communities

Special-status natural communities are identified as such by CDFG Natural Heritage Division. These communities include those that are both naturally rare and those that have been greatly diminished through changes in land use. The CDFG tracks 135 such natural communities in the same way that it tracks occurrences of special-status species: information is maintained on each site in terms of its location, extent, habitat quality, level of disturbance, and current protection measures. The CDFG is mandated to seek the long-term perpetuation of the areas in which these communities occur. In some cases, these areas have been established as protected reserves. There is no statewide law that requires protection of all special-status natural communities, but CEQA requires consideration of the potential impacts of a project to biological resources of statewide or regional significance.

Special-Status Plant and Wildlife Species

A number of species known to occur in the MTC region are accorded “special status” because of their recognized rarity or vulnerability to habitat loss or population decline. Some of these species are listed and receive specific protection defined in federal or state endangered species legislation. Other species have not been formally listed as threatened or endangered, but have been designated as “rare” or “sensitive” on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as “special-status species” following a convention that has developed in practice but has no official sanction. Special-status species in the MTC region are subject to the following:

- The California Native Plant Protection Act (California Fish and Game Code 1900 et seq.) protects endangered and “rare” species, subspecies, and varieties of plants.
- The California Endangered Species Act lists plants and wildlife as threatened or endangered (California Fish and Game Code 2070).
- The Federal Endangered Species Act (FESA), the Secretary of Commerce, and the Secretary of the Interior list plants and wildlife as threatened or endangered (16 USC 1533[a]; 16 USC 1533[a] [2]; 16 USC 1533 [c] [1]).
- The California Environmental Quality Act (CEQA), Guidelines Section 15380 includes plants and wildlife that may be considered rare or endangered if the species meets certain specified criteria.
- The California Native Plant Society designates rare, threatened, or endangered plants as List 1 and List 2, and plants about which more information is needed and plants with limited distributions as List 3 and List 4.
- The California Department of Fish and Game (CDFG) designates plants and wildlife as “species of special concern” and protects the destruction of nests and eggs of any bird (Section 3503).

- The federal Bald Eagle Protection Act prohibits persons within the United States (or places subject to U.S. jurisdiction) from “possessing, selling, purchasing, offering to sell, transporting, exporting or importing any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof.”
- The Migratory Bird Treaty Act (16 USC, Section 703, Supplement I, 1989) prohibits killing, possessing, or trading of migratory non-game birds.
- The California Fish and Game Code (Section 3503.5, 1992) protects birds of prey from unlawful take, possession, or destruction of any birds in the order Falconiformes or Strigiformes (birds of prey) and prohibits the possession or destruction of the nests or eggs of any such bird.
- The California Fish and Game Code (Section 3511 [birds], Section 5050 [reptiles and amphibians], and Section 4700 [mammals]) designates certain wildlife species as fully protected in California.

Protected Plant and Wildlife Areas

CDFG protects rare, threatened, and endangered species by managing habitat in legally designated ecological reserves or wildlife areas. Several of these reserves are located in the MTC region. Likewise, the USFWS maintains the National Wildlife Refuge system that includes units in the MTC region. Additional tracts of open space in the MTC region, supporting valuable wildlife resources, are administered by other federal and state agencies, including the National Park Service and California Department of Parks and Recreation.

The counties and many cities in the MTC region have established major parklands that sustain important wildlife resources. There are other quasi- and non-governmental organizations that oversee the management and protection of critical plant and wildlife communities, including the East Bay Regional Park District, San Francisco Public Utilities Commission, National Audubon Society, and The Nature Conservancy.

Wetlands

Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. The importance and sensitivity of wetlands has increased with the recognition of their value as recharge areas and filters for water supplies. In a jurisdictional sense, there are two definitions of a wetland, one definition adopted by federal agencies and a separate definition adopted by the State of California. Both definitions are presented below.

Within California, approximately 95 percent of the state’s historic wetlands have been converted to other land uses. An estimated 5 million acres of wetlands were present in California in the 1780s; by the 1980s, the acreage of wetlands in California had been reduced to only 450,000 acres. The loss of wetlands has been pronounced in the Bay Area and MTC region because of the intense diking of shoreline wetlands in the Delta for agriculture as well as for salt production throughout San Francisco Bay, and as a result of hydraulic mining operations in the mid-1800s that lasted until at least the late 1800s.

Federal Wetland Definition. Wetlands are a subset of waters of the United States and receive protection under Section 404 of the Clean Water Act. The term “waters of the United States” as defined in the Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]) includes:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands. (Wetlands are defined by the federal government [CFR, Section 328.3(b), 1991] as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.);
 - a. which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - b. from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - c. which are used or could be used for industrial purposes by industries in interstate commerce.
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
4. All impoundments of waters otherwise defined as waters of the United States under the definition;
5. Tributaries of waters identified in paragraphs (1) through (4);
6. Territorial seas; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6).
8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA [328.3(a)(8) added 58 CFR 45035, August 25, 1993].

The regulations and policies of various federal agencies (e.g., the Corps, U.S. Department of Agriculture [USDA], NRCS (Natural Resources Conservation Service), EPA, USFWS, National

Marine Fisheries Service) mandate that the filling of wetlands be avoided to the extent possible. The Corps has primary federal responsibility for administering regulations that concern wetlands within the area. The Corps acts under the authority of the Clean Water Act (Section 404), which governs specified activities in "waters of the United States," including wetlands.

California Wetland Definition. Unlike the federal government, the CDFG has adopted the Cowardin et al. (1979) definition of wetlands:

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface of the land or is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes (at least 50% of the aerial vegetative cover); (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.

Under normal circumstances, the federal definition of wetlands requires all three wetland identification parameters to be met, whereas the Cowardin definition requires the presence of at least one of these parameters. For this reason, identification of wetlands by CDFG consists of the union of all areas that are periodically inundated or saturated, or in which at least seasonal dominance by hydrophytes may be documented, or in which hydric soils are present. The CDFG does not normally have direct jurisdiction over wetlands unless they are subject to jurisdiction under Streambed Alteration Agreements or they support state-listed endangered species.

Regulation of Activities in Wetlands. The regulations and policies of various federal agencies (e.g., Corps, USDA, NRCS, EPA, USFWS, NMFS) mandate that the filling of wetlands be avoided unless it can be demonstrated that no practicable alternatives exist. The Corps has primary federal responsibility for administering regulations that concern waters and wetlands in the MTC region. In this regard, the Corps acts under two statutory authorities, the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters," and the Clean Water Act (Section 404), which governs specified activities in waters of the United States, including wetlands. The Corps requires that a permit be obtained if a project proposes placing structures within navigable waters and/or alteration of waters of the U.S. below the ordinary high-water mark in nontidal waters. On agricultural lands, NRCS becomes the primary agency charged with determining the boundary of jurisdictional wetlands for implementation of the Food Securities Act, while the Corps retains primary permitting authority. EPA, USFWS, NMFS, and several other agencies provide comment on Corps permit applications. The EPA provides the primary criteria for evaluating the biological impacts of Corps permit actions in wetlands.

The state's authority in regulating activities in wetlands and "waters" at the site resides primarily with the CDFG and the State Water Resources Control Board (SWRCB). In addition, the California Coastal Commission has review authority for wetland permits within its planning jurisdiction. The CDFG provides comment on Corps permit actions under the Fish and Wildlife Coordination Act. CDFG is also authorized under the California Fish and Game Code, Sections 1600-1607, to develop mitigation measures and enter into a Streambed Alteration Agreement

with applicants that propose a project that would obstruct the flow or alter the bed, channel, or bank of a river or stream in which there is a fish or wildlife resource, including intermittent and ephemeral streams. The SWRCB, acting through the nine Regional Water Quality Control Boards, must certify that a Corps permit action meets state water quality objectives (Section 401, Clean Water Act).

Generally, the Corps and the California Coastal Commission define wetlands by using three categories: vegetation, soil, and hydrology. The Corps definition of wetlands generally requires that criteria based on all three categories be found for an area to be designated as a jurisdictional wetland. The Coastal Commission method, as defined by the California Coastal Act, specifies that an area may be delineated as a wetland based on one or more of these criteria.

In planning federal transportation projects, the MTC will consider environmental impacts to waters of the U.S. and associated sensitive species. A high priority is placed on the avoidance of adverse impacts to waters of the U.S. and associated sensitive species (including threatened and endangered species). Unavoidable impacts will be mitigated to the extent reasonable and practical.

Wetlands Stewardship. Many programs and policies have been adopted by federal, state, and regional agencies and by private entities to protect and restore wetlands in California. In 1993, a California Wetlands Conservation Policy was established. The goals of the policy were to establish a framework and a strategy that would:

- Ensure no overall net loss and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property;
- Reduce procedural complexity in the administration of state and federal wetlands conservation programs; and
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetlands conservation and restoration.

The policy recommended completion of a statewide inventory of wetlands that would lead to the establishment of a formal wetland acreage goal. This inventory is in progress.

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat
SPECIES LISTED AS THREATENED OR ENDANGERED		
Invertebrates		
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT/-- Critical Habitat	Grassland vernal pools
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT/--	Dependent on elderberry bushes, which may occur individually or associated with riparian habitats
Bay checkerspot butterfly <i>Euphydryas editha bayensis</i>	FT/-- Critical Habitat	Serpentine bunchgrass grassland
Mission blue butterfly <i>Icaricia icarioides missionensis</i>	FE/--	Grassland with <i>Lupinus albifrons</i> , <i>L. formosa</i> , and <i>L. varicolor</i>
San Bruno elfin butterfly <i>Incisalia mossii bayensis</i>	FE/--	Coastal scrub
Callippe silverspot butterfly <i>Speyeria callippe callippe</i>	FE/--	Native grasslands with <i>Viola pedunculata</i> as larval food plant
Myrtle silverspot butterfly <i>Speyeria zerene myrtleae</i>	FE/--	Native grasslands with <i>Viola pedunculata</i> as larval food plant
California freshwater shrimp <i>Syncaris pacifica</i>	FE/CE	Large, slow-moving freshwater streams in Sonoma and Napa Counties
Fish		
Tidewater goby <i>Eucyclogobius newberryi</i>	FE/CSC	Shallow waters of bays and estuaries
Delta smelt <i>Hypomesus transpacificus</i>	FE/CT	Brackish-water channels and sloughs of the Sacramento – San Joaquin Delta
Coho salmon – central California ESU <i>Oncorhynchus kisutch</i>	FT/CT	Unblocked Bay Area and coastal rivers and streams; particularly cooler water streams in Marin, Sonoma, and Napa Counties, and the Sacramento – San Joaquin Delta.
Central California coast steelhead <i>Oncorhynchus mykiss</i>	FT/CSC	Drainages of central California coastal rivers
Central coast Chinook salmon <i>Oncorhynchus tshawytscha</i>	FT/CSC	Drainages of central California coastal rivers

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	FT/CSC	Large sloughs and dead-end sloughs of the Sacramento – San Joaquin Delta that are fed by freshwater streams. Juveniles and adults utilize shallow edgewater areas lined by emergent aquatic vegetation.
Amphibians		
California tiger salamander <i>Ambystoma californiense</i>	FT/CSC Proposed Critical Habitat	Wintering sites occur in grasslands occupied by burrowing mammals; breed in ponds, vernal pools, and slow-moving or receding streams.
California red-legged frog <i>Rana aurora draytonii</i>	FT/CSC Proposed Critical Habitat	Breed in stock ponds, pools, and slow-moving streams with emergent vegetation; adjacent upland habitats are often used outside the breeding season.
Reptiles		
San Francisco garter snake <i>Thamnophis sirtalis tetrataenia</i>	FE/CE	Freshwater ponds and slow streams with emergent vegetation; nearby upland grasslands with small rodent burrows may also provide habitat for this species. Little is known about the seasonal movements of this species or its capacity for using upland areas.
Alameda whipsnake <i>Masticophis lateralis euryxanthus</i>	FT/CT	Coastal scrub of the East Bay Hills broken by scattered grassy patches, on rocky hillsides, gullies, or canyons with stream courses.
Giant garter snake <i>Thamnophis gigas</i>	FT/CT	Typically found in Central Valley wetlands, this species requires permanent or semi permanent water and dense vegetation of freshwater marshes and permanent streams. May also use drainage canals and irrigation ditches that hold water through most of the year.
Birds		
Marbled murrelet <i>Brachyramphus marmoratus</i>	FT/CE	Nests in dense, old-growth forests along coast
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT/CSC	Nests and forages on sandy beaches on marine and estuarine shores; requires sandy, gravelly, or friable soils for nesting; may nest on salt pond levees or other suitable barren habitat.
American peregrine falcon <i>Falco peregrinus anatum</i>	--/CE	Forages in marshes and grasslands. Nesting habitat includes high, protected cliffs and ledges near water.

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat
California black rail <i>Laterallus jamaicensis coturniculus</i>	FSC/CT	Nests and forages in tidal emergent wetland with pickleweed
California clapper rail <i>Rallus longirostris obsoletus</i>	FE/CE	Nests and forages in emergent wetlands with pickleweed, cordgrass, and bulrush
California least tern <i>Sterna antillarum browni</i>	FE/CE	Nests along the coast from San Francisco Bay south to northern Baja California; colonial breeder on bare or sparsely vegetated flat substrates including sand beaches, alkali flats, landfills, or paved areas
Northern spotted owl <i>Strix occidentalis caurina</i>	FT/--	Nests in old-growth forests
Mammals		
Salt marsh harvest mouse <i>Reithrodontomys raviventris raviventris</i>	FE/CE	Saline emergent marshlands with dense pickleweed
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	FE/CT	Patchily distributed in the Diablo Range and south to Bakersfield in undeveloped grasslands and agricultural land
Plants		
Large-flowered fiddleneck <i>Amsinckia grandiflora</i>	FE/CE/List IB	Valley grassland and foothill woodland, this species has been reported from Contra Costa County, Alameda, and Santa Clara Counties
San Bruno Mtn. Manzanita <i>Arctostaphylos imbricata</i>	FSC/CE/List IB	Chaparral, coastal scrub
Pacific manzanita <i>Arctostaphylos pacifica</i>	FSC/CE/--	Chaparral, coastal scrub
Pallid manzanita <i>Arctostaphylos pallida</i>	FT/CE/List IB	Chaparral habitats in Alameda and Contra Costa Counties
Tiburon Indian paintbrush <i>Castilleja affinis ssp. neglecta</i>	FE/CT/List IB	Dry slopes in the Coast Ranges from San Mateo to Sonoma Counties
Coyote ceanothus <i>Ceanothus ferrisiae</i>	FE/--/List IB	Dry serpentine slopes in foothill woodlands and chaparral habitats in the Santa Cruz Mountains
Robust spineflower <i>Chorizanthe robusta var. robusta</i>	FE/--/List IB	Coastal scrub, coastal sand dunes, openings in oak woodlands with sandy or gravelly soil
Fountain thistle <i>Cirsium fontinale var. fontinale</i>	FE/CE/List IB	Grassland and openings in chaparral, in serpentine seeps

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat
Suisun thistle <i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>	FE/CE/List IB	Brackish marshes around Suisun Bay.
Presidio clarkia <i>Clarkia franciscana</i>	FE/CE/List IB	Coastal scrub, grassland (ultramafic)
Soft bird's beak <i>Cordylanthus mollis</i> ssp. <i>mollis</i>	FE/CR/List IB	Heavy clay soils of either coastal salt or brackish marshes of northern San Francisco Bay.
Yellow larkspur <i>Delphinium luteum</i>	FE/CR/List IB	Sea bluffs and northern coastal scrub
Santa Clara Valley dudleya <i>Dudleya setchellii</i>	FE/--/List IB	Ultramafic grasslands
San Mateo woolly sunflower <i>Eriophyllum latilobum</i>	FE/CE/List IB	Grassland, woodland slopes
Contra Costa wallflower <i>Erysimum capitatum</i> ssp. <i>angustatum</i>	FE/CE/List IB	Antioch Dunes along the San Joaquin River; Contra Costa County
San Mateo woolly sunflower <i>Eriophyllum latilobum</i>	FE/CE/List IB	Grassland, woodland slopes
Contra Costa wallflower <i>Erysimum capitatum</i> ssp. <i>angustatum</i>	FE/CE/List IB	Antioch Dunes along the San Joaquin River; Contra Costa County
Marin western flax <i>Hesperolinon congestum</i>	FT/CT/List IB	Grassland and openings in chaparral, often on serpentinite
Santa Cruz tarplant <i>Holocarpha macradenia</i>	FT/CE/List IB	Coastal scrub, coastal sand dunes, openings in oak woodlands with sandy or gravelly soil
Contra Costa goldfields <i>Lasthenia conjugens</i>	FE/--/List IB	Moist grasslands, vernal pools
White-rayed pentachaeta <i>Pentachaeta bellidiflora</i>	FE/CE/List IB	Coastal scrub, grassland
San Francisco popcorn flower <i>Plagiobothrys diffusus</i>	FSC/CE/List IB	Grasslands with marine influence
Metcalf Canyon jewel flower <i>Streptanthus albidus</i> ssp. <i>albidus</i>	FE/--/List IB	Serpentine outcrops in chaparral habitats

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat
Tiburon jewel-flower <i>Streptanthus niger</i>	FE/CE/List IB	Serpentine slopes among coastal prairie habitat; Marin County
Solano grass <i>Tuctoria mucronata</i>	FE/CE/List IB	Vernal pools in valley grassland habitats; Solano County
OTHER SPECIES OF SPECIAL CONCERN		
Invertebrates		
Opler's longhorn moth <i>Adella oplerella</i>	FSC/--	Serpentine grasslands
Edgewood Park blind harvestman <i>Calicina minor</i>	FSC/--	Described from beneath rocks in serpentine grassland adjacent to scrub oaks
Serpentine phalangid <i>Calcina serpentina</i>	FSC/--	Serpentine rocks and barrens
Monarch butterfly <i>Danaus plexippus</i>	--/*	Eucalyptus groves (winter sites)
Bridge's coast range shoulderband snail <i>Helminthoglypta nickliniana bridgesi</i>	FSC/--	Coastal scrub habitat and weedy pastures
Ricksecker's water scavenger beetle <i>Hydrochara rickseckeri</i>	FSC/--	Freshwater ponds, shallow water of streams, marshes, and lakes
Leech's skyline diving beetle <i>Hydroporus leechi</i>	FSC/--	Freshwater ponds, shallow water of streams, marshes, and lakes
Curved-foot hygrotus diving beetle <i>Hygrotus curvipes</i>	FSC/--	Vernal pools and alkali flats
San Francisco fork-tailed damselfly <i>Ischnura gemina</i>	FSC/--	Wetlands with emergent vegetation
Tiburon micro-blind harvestman <i>Micorcina tiburona</i>	FSC	Undersides of serpentine rocks near permanent springs; restricted to the Tiburon peninsula.
San Francisco lacewing <i>Nothochrysa californica</i>	FSC/--	Grasslands
Unsilvered fritillary butterfly	FSC/--	Native grasslands with <i>Viola pedunculata</i> as larval

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat
<i>Speyeria adiastrae adiastrae</i>		food plant
Fish		
Sacramento perch <i>Archoplites interruptus</i>	FSC/CSC	Slow-moving sloughs, streams, rivers, and lakes
River lamprey <i>Lampetra ayresi</i>	FSC/CSC	Pacific Ocean and estuaries; spawning in coastal streams from Alaska to San Francisco Bay
Pacific lamprey <i>Lampetra tridentata</i>	FSC/--	Adults inhabit estuaries and nearby ocean areas with spawning in upstream gravel beds. Larvae remain buried throughout most of their 5- to 7-year larval life and then move to downstream estuarine stream reaches.
Longfin smelt <i>Spirinichus thaleichthys</i>	FSC/CSC	Sacramento – San Joaquin Delta, this anadromous fish ascends rivers in cooler months to spawn.
Amphibians		
Foothill yellow-legged frog <i>Rana boylei</i>	FSC/CSC	Streams with quiet pools absent of predatory fish
Western spadefoot <i>Spea (=Scaphiopus) hammondi</i>	FSC/CSC	Floodplains and grassland pools
Reptiles		
Western pond turtle <i>Emmys (=Clemmys) marmorata</i>	FSC/CSC	Freshwater ponds and slow streams edged with sandy soils for laying eggs
San Joaquin coachwhip <i>Masticophis flagellum ruddocki</i>	FSC/CSC	Prairie, scrublands, woodlands, farmlands, or grasslands with varying amounts of cover
California horned lizard <i>Phrynosoma coronatum frontale</i>	FSC/CSC	Patchy open areas with sandy soils and available ant food sources
Birds		
Cooper's hawk <i>Accipiter cooperii</i>	CDFG 3503.5	Nests in riparian growths of deciduous trees and live oak woodlands
Sharp-shinned hawk <i>Accipiter striatus</i>	CDFG 3503.5	Nests in riparian growths of deciduous trees and live oaks
Tricolored blackbird <i>Agelaius tricolor</i>	FSC/CSC	Nests in freshwater marshes with dense stands of cattails or bulrushes, occasionally in willows, thistles, mustard, blackberry brambles, and dense shrubs and grains

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat
Great blue heron <i>Ardea herodias</i>	--/*	Nests in trees along lakes and estuaries
Burrowing owl <i>Athene cunicularia</i>	FSC/CSC	Nests and forages in low-growing grasslands that support burrowing mammals
Golden eagle <i>Aquila chrysaetos</i>	--/CSC	Nests in mountainous or hilly terrain and hunts over open grasslands habitats; common in Diablo Range
Great blue heron <i>Ardea herodias</i>	--/*	Nests in trees along lakes and estuaries
Northern harrier <i>Circus cyaneus</i>	--/CSC	Nests in coastal freshwater and saltwater marshes, nest and forages in grasslands
Yellow warbler <i>Dendroica petechia brewsteri</i>	--/CSC	Nests near wet habitats, particularly in willow and alder groves
White-tailed kite (nesting) <i>Elanus leucurus</i>	CDFG fully protected	Nests near wet meadows and open grasslands, dense oak, willow, or other large tree stands
California horned lark <i>Eremophila alpestris</i>	--/CSC	Nests and forages in barren dirt areas, shores, and gravel areas
Saltmarsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	FSC/CSC	Breeds in moist salt marsh habitats with dense, low cover
Yellow-breasted chat <i>Icteria virens</i>	--/CSC	Breeds in woodland edges and neglected pastures in thick willow habitats or shrubby wet meadows
Loggerhead shrike <i>Lanius ludovicianus</i>	FSC/CSC	Scrub, open woodlands, and grasslands
Alameda song sparrow <i>Melospiza melodia pusillula</i>	FSC/CSC	Year-round inhabitant of saline emergent wetlands in the south San Francisco Bay
San Pablo song sparrow <i>Melospiza melodia samuelis</i>	FSC/CSC	Year-round inhabitant of saline emergent wetlands of San Pablo Bay
Osprey <i>Pandion haliaetus</i>	--/CSC	Nests near freshwater lakes and large streams on large snags
Purple martin <i>Progne subis</i>	--/CSC	Natural nesting sites include old woodpecker holes, snags, and sometimes under bark
California spotted owl <i>Strix occidentalis occidentalis</i>	FSC/CSC	Nests in old-growth forests.

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat
Mammals		
Pallid bat <i>Antrozous pallidus</i>	--/CSC	Roosts in large-diameter trees
Berkeley kangaroo rat <i>Dipodomys heermanni berkeleyensis</i>	FSC/*	Foothill grassland, oak/pine woodlands, and open chaparral
Greater western mastiff bat <i>Eumops perotis californicus</i>	FSC/CSC	Breeds in rugged, rocky canyons and forages in a variety of habitats
San Pablo vole <i>Microtus californicus sanpabloensis</i>	--/CSC	Brackish-water emergent wetlands; largely confined to a few locations in San Pablo
Small-footed myotis <i>Myotis ciliolabrum</i>	FSC/--	Forages over grasslands and roosts in caves and rock crevices
Long-eared myotis <i>Myotis evotis</i>	FSC/--	Inhabits woodlands and forests
Fringed myotis <i>Myotis thysanodes</i>	FSC/--	Inhabits a variety of habitats, including pinyon-juniper woodland, valley-foothill hardwood, and hardwood-conifer forests
Long-legged myotis <i>Myotis volans</i>	FSC/--	Inhabits forests and woodland habitats, primarily oak and juniper woodlands
Yuma myotis bat <i>Myotis yumanensis</i>	FSC/--	Open forests and woodlands below 8,000 feet in close association with water bodies
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	FSC/CSC	Forests with moderate canopy cover and brushy understory
Pacific western big-eared bat <i>Plecotus townsendii townsendii</i>	FSC/CSC	Inhabits oak and conifer woodlands, broad-leaved forests, arid grasslands, deserts, and high mountain meadows
Suisun shrew <i>Sorex ornatus sinuosus</i>	FSC/CSC	Restricted to natural tidal salt and brackish marshes
Salt marsh wandering shrew <i>Sorex vagrans halicoetes</i>	FSC/CSC	Inhabits tidal salt marshes dense with pickleweed in the south San Francisco Bay.
Plants		
Sharsmith's onion <i>Allium sharsmithae</i>	--/--/IB	Rocky serpentine slopes in the Mt. Hamilton Range

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat
Montara manzanita <i>Arctostaphylos montaraensis</i>	FC/--/List IB	Maritime chaparral, coastal scrub
Marin manzanita <i>Arctostaphylos virgata</i>	--/--/IB	Brushy slopes at the edge of closed-cone pine forests in Marin County
San Francisco Bay spineflower <i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	FSC/--/List IB	Coastal bluff scrub, coastal dunes, coastal prairie, on sandy soils
Woolly-headed spineflower <i>Chorizanthe cuspidata</i> var. <i>villosa</i>	--/--/IB	Sandy soil, dunes, and northern coastal strand from Santa Cruz to Sonoma Counties
Mt. Hamilton thistle <i>Cirsium fontinale</i> var. <i>campylon</i>	FSC/--/List IB	Ultramafic seeps, sandy streams
Palo alto thistle <i>Cirsium praeteriens</i>	--/--/List IB	Ultramafic seeps, sandy streams
Point Reyes bird's beak <i>Cordylanthus maritimus</i> ssp. <i>palustris</i>	FSC/--/List IB	Once common to north-central coastal salt marshes, this species is now restricted to only a few locations from Point Reyes to west Berkeley and south.
Mt. Diablo bird's beak <i>Cordylanthus nidularius</i>	FSC/CR/List IB	Serpentine slopes in chaparral habitats in Contra Costa County near Mt. Diablo
Mt. Hamilton coreopsis <i>Coreopsis hamiltonii</i>	FSC/--/List IB	Steep, shale talus, woodland
Clustered lady's-slipper <i>Cypripedium fasciculatum</i>	FSC/--/List 4	Lower montane coniferous forests, north coast coniferous forests, usually serpentine seeps and streambanks.
Hospital Canyon larkspur <i>Delphinium californicum</i> ssp. <i>interius</i>	FSC/--/List IB	Moist areas of the inner Coast Ranges from Contra Costa to Santa Clara counties.
Recurved larkspur <i>Delphinium recurvatum</i>	FSC/--/List IB	Alkali sink or valley and foothill grassland communities
Western leatherwood <i>Dirca occidentalis</i>	--/--/IB	Broad-leaved upland forests, closed-cone coniferous forests, chaparral, cismontane woodland, north coast coniferous forests, riparian forests, riparian woodland; mesic sites
Brandegee's eriastrum <i>Eriastrum brandegeae</i>	FSC/--/List IB	Volcanic material in chaparral and foothill woodlands

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat
Mt. Diablo buckwheat <i>Eriogonum truncatum</i>	--/--/IA	Chaparral, scrub, and grassland habitats of Alameda, Contra Costa, and Solano Counties
Coast wallflower <i>Erysimum ammosiphilum</i>	FSC/--/List IB	Sandy coastal habitats
Diamond-petaled California poppy <i>Eschscholzia rhombipetala</i>	FSC/--/List IB	Dry flats and brushy slopes below 3,500 feet in elevation
Marin checker lily <i>Fritillaria affinis</i> var. <i>tristulis</i>	--/--/IB	Coastal grasslands of western Marin County
Hillsborough chocolate lily <i>Fritillaria biflora</i> var. <i>ineziana</i>	--/--/IB	Cismontane woodland, grassland, on serpentinite
Talus fritillary <i>Fritillaria falcata</i>	FSC/--/List IB	Serpentine talus slopes in chaparral and foothill woodlands
Fragrant fritillary <i>Fritillaria liliacea</i>	FSC/--/List IB	Coastal scrub, valley and foothill grassland, coastal prairie; on heavy clay soils, often on ultramafic soils
San Francisco gumplant <i>Grindelia hirsutula</i> var. <i>maritima</i>	FSC/--/List IB	Coastal bluff scrub, coastal scrub, grasslands, on sandy or serpentinite soils
Diablo helianthella <i>Helianthella castanea</i>	FSC/--/List IB	Openings in chaparral and broad-leaved upland forest
Congdon's tarplant <i>Hemizonia parryi</i> ssp. <i>congonii</i>	FSC/CSC/List IB	Valley grassland
Brewer's western flax <i>Hesperolinon breweri</i>	FSC/--/List IB	Grassy or brushy serpentine slopes within chaparral or foothill woodlands of the outer Coast Ranges; often partly shaded
Drymaria-like western flax <i>Hesperolinon drymarioides</i>	FSC/--/List IB	Dry slopes in foothill woodlands
Carquinez goldenbush <i>Isocoma arguta</i>	FSC/--/List IB	Slopes of the Carquinez Straits in Solano and Contra Costa Counties
Delta tule pea <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	FSC/--/List IB	Natural edges of sloughs and rivers in the Sacramento – San Joaquin Delta
Crystal Springs lessingia <i>Lessingia arachnoidea</i>	FSC/--/List IB	Cismontane woodland, coastal scrub, grasslands, on serpentinite, often on roadcuts

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat
Smooth lessingia <i>Lessingia micradenia</i> var. <i>glabrata</i>	FSC/--/List IB	Dry, open gravel slopes in serpentine or clay; from Santa Cruz Mountainns
Tamalpais lessingia <i>Lessingia micradenia</i> var. <i>micradenia</i>	FSC/--/List IB	Chaparral and mixed evergreen forests on dry gravel or serpentine slopes; from Marin County
Coast lily <i>Lilium maritimum</i>	FSC/--/List IB	Sandy soils, but also in brush and woods in coastal scrub and coastal coniferous habitats
Showy madia <i>Madia radiata</i>	--/--/List IB	Grassy slopes in valley grasslands and foothill woodlands of the inner Coast Ranges from Contra Costa to Kern Counties
Robust monardella <i>Monardella villosa</i> var. <i>globosa</i>	--/--/List IB	Cismontane woodland, openings in chaparral
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	--/--/List IB	Vernal pools in valley grasslands and foothill woodlands
Marin County navarretia <i>Navarretia rosulata</i>	--/--/List IB	Serpentine soils; noted in Marin County
North coast phacelia <i>Phacelia insularis</i> var. <i>continentis</i>	FSC/--/List IB	Coastal strand and sand dunes in Marin and to Mendocino Counties
Mt. Diablo phacelia <i>Phacelia phacelioides</i>	FSC/--/List IB	Cismontane woodland, chaparral
Hairless popcorn-flower <i>Plagiobothrys glaber</i>	--/--/List IA	Largely confined to coastal salt marsh habitats along the south shore of San Francisco Bay, but also located in alkaline meadows in Santa Clara Valley and further south
Hooked popcorn-flower <i>Plagiobothrys uncinatus</i>	FSC/--/List IB	Canyon sides and chaparral habitats
Rayless ragwort <i>Senecio aphanactis</i>	--/--/List 2	Dry, open places including chaparral and coastal sage scrub
Marin checkerbloom <i>Sidalcea hickmanii</i> var. <i>viridis</i>	FSC/--/List IB	Chaparral, usually on serpentinite
San Francisco campion <i>Silene verecunda</i> var. <i>verecunda</i>	FSC/--/List IB	Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, grasslands with sandy soil
Most beautiful jewel-flower <i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	FSC/--/List IB	Serpentine grassland, chaparral

Table F-1: Focused List of Special-Status Species with Potential to Occur in or Near Proposed Projects in Transportation 2030 Plan

Common Name Scientific Name	Listing Status USFWS/ CDFG/CNPS	General Habitat
Tamalpais jewel-flower <i>Streptanthus batrachopus</i>	FSC/--/List 1B	Serpentine outcrops within chaparral; reported from Contra Costa and Marin Counties
San Francisco owl's-clover <i>Triphysaria floribunda</i>	FSC/--/List 1B	Coastal prairie and grasslands, on serpentinite
Caper-fruited tropidocarpum <i>Tropidocarpum capparideum</i>	FSC/--/List 1A	Alkaline hills, grasslands

LISTING STATUS CODES:

FEDERAL: (U.S. Fish and Wildlife Service)

FE = Listed as endangered (in danger of extinction) by the federal government.

FT = Listed as threatened (likely to become endangered within the foreseeable future) by the federal government.

FP = Proposed for listing as endangered or threatened.

FC = Candidate to become a proposed species.

FSC = Federal species of concern. May be endangered or threatened, but not enough biological information has been gathered to support listing at this time.

STATE: (California Department of Fish and Game)

CE = Listed as endangered by the State of California

CT = Listed as threatened by the State of California

CR = Listed as rare by the State of California (plants only)

CSC = California species of special concern

3503.5=Protection for nesting species of Falconiformes (hawks) and Strigiformes (owls)

CALIFORNIA NATIVE PLANT SOCIETY (CNPS)

List 1A: Plants presumed extinct in California

List 1B: Plants rare, threatened, or endangered in California and elsewhere

List 2: Plants rare, threatened, or endangered in California

List 3: Plants about which more information is needed

List 4: Plants of limited distribution

Source: CDFG, 2004; Hickman et al, 1993; Zeiner and Laudenslayer, 1988-1990; Moyle et al., 1995

ADDITIONAL ECOSYSTEMS IN THE BAY AREA

The following describes four additional ecosystems found in the San Francisco Bay Area.

COASTAL MARSH AND ESTUARIES

Coastal salt marshes around San Francisco Bay (including historically diked tidal marshes) are dominated by perennial pickleweed (*Salicornia virginica*), alkali heath (*Frankenia grandifolia*), fat hen (*Chenopodium album*), marsh gumplant (*Grindelia stricta* var. *angustifolia*), saltgrass (*Distichlis spicata*), and other salt-tolerant plants that are tolerant of regular inundation or soil saturation. Tidal salt marshes also may be bisected by a network of sloughs and small channels that facilitate tidal reach into the interior of the marsh. These channels are subject to more frequent and deeper flooding and therefore support different plant species, such as smooth cordgrass (*Spartina foliosa*) and alkali bulrush (*Scirpus maritimus*). These communities are sometimes categorized as northern coastal salt marsh, coastal brackish marsh, and coastal freshwater marsh, in order of decreasing tidal effects and salinity.

In more extensive slough systems, such as those in the North Bay and South Bay, the transition zones between sloughs and creeks are increasingly dominated by freshwater-adapted species such as California bulrush (*Scirpus californicus*) and cattails (*Typha* sp.). Extensive coastal marsh communities are present near the Transportation 2030 Plan corridors in the Sonoma Creek and Napa River complexes (North Bay east-west corridor), at Suisun Marsh (I-680 corridor), and in patches along US 101 in Palo Alto and Mountain View (Peninsula corridor).

There are few terrestrial animals in the salt marsh, and few resident bird species. Raptors that are typical of Bay Area salt marsh habitats include northern harrier (*Circus cyaneus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). Migratory shorebirds that forage in the mudflats during low tide include black-necked stilt (*Himantopus mexicanus*), American avocet (*Recurvirostra americana*), long-billed curlew (*Numenius americanus*), marbled godwit (*Limosa fedoa*), and several sandpipers. During high tide, a few of the ducks that may be found in salt marsh environments include northern shoveler (*Anas clypeata*), American wigeon (*Anas americana*), northern pintail (*Anas acuta*), gadwall (*Anas strepera*), and canvasback (*Aythya valisineria*). Other common mammals in salt marsh habitats include California vole (*Microtus californicus*), house mouse (*Mus musculus*), and black-tailed jackrabbit (*Lepus californicus*).

Rare and endangered wildlife species that occur among the pickleweed and cordgrass include California clapper rail (*Rallus longirostris obsoletus*), California black rail (*Laterallus jamaicensis coturniculus*), western snowy plover (*Charadrius alexandrinus nivosus*), Alameda song sparrow (*Melospiza melodia pusillula*), San Pablo song sparrow (*Melospiza melodia samuelis*), salt marsh common yellowthroat (*Geothlypis trichas sinuosa*), salt marsh harvest mouse (*Reithrodontomys raviventris*), San Pablo vole (*Microtus californicus sanpabloensis*), Suisun shrew (*Sorex ornatus sinuosus*), and salt marsh wandering shrew (*Sorex vagrans*) may occur in areas with high-quality emergent wetlands and adjacent upland environs. Rare plants include Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*), soft bird's beak (*Cordylanthus mollis* ssp. *mollis*), Point Reyes bird's beak (*Cordylanthus maritimus* ssp. *palustris*), Suisun thistle (*Cirsium hydrophilum* var. *hydrophilum*),

and Suisun marsh aster (*Aster lentus*). Freshwater and salt marshes are sensitive communities because of historic and continuing loss of wetland habitats from agricultural conversion, urbanization, and flood control development, and because they provide habitat for several special-status species. Some of the Transportation 2030 Plan transportation improvement are proposed within coastal marsh and/or estuarine habitats and could affect the sensitive plants, wildlife, and/or wetland resources identified above. A few projects are located near existing facilities in areas that have been historically disturbed and are less likely to harbor endangered plant or wildlife resources. Such areas include the Vallejo Ferry terminal and the Port of Oakland facilities. Due to historical fragmentation and wetland fill, current MTC projects with large footprints in undisturbed marshlands are expected to decrease habitat and could result in direct impacts to endangered species.

WOODLANDS

Mixed oak woodlands are often composed of coast live oak, California black oak (*Quercus kelloggii*), valley oak (*Quercus lobata*), toyon (*Heteromeles arbutifolia*), and California buckeye (*Aesculus californica*). In this discussion, these woodlands are grouped with broad-leaved upland forests on steep north-facing slopes, which may additionally include big-leaf maple (*Acer macrophyllum*) and California bay (*Umbellularia californica*). The understory is dominated by herbaceous vegetation and consists of non-native grasses such as soft chess (*Bromus mollis*) and ripgut grass (*Bromus diandrus*), intermixed with native and non-native wildflowers including mission bells (*Fritillaria affinis*), chickweed (*Stellaria media*), bedstraw (*Galium aparine*), mugwort (*Artemisia douglasiana*), fiesta flower (*Pholistoma auritum*), and miner's lettuce (*Claytonia perfoliata*). The shrub layer of the understory, though sparse, often contains snowberry (*Symphoricarpos albus*), poison oak (*Toxicodendron diversilobum*), and California blackberry (*Rubus ursinus*). This community often occurs as an open savannah habitat, as seen near US 101 in Sonoma County, I-80 in Solano County, near the State Route 4 (bypass) corridor, but also as dense, closed canopy forests as seen near I-280 in San Mateo County (Peninsula corridor) and south of I-580 between the cities of Hayward and Pleasanton (I-580 corridor). These wooded communities frequently intergrade with adjacent habitats, such as between oak savannas and adjacent grasslands or chaparral, and between forested areas and riparian plant communities.

Coast live oak woodland provides water, foraging, nesting, cover, and migrating and dispersal corridors for a variety of wildlife species. Insect eaters such as ash-throated flycatcher (*Myiarchus cinerascens*), plain titmouse (*Parus inornatus*), and dark-eyed junco (*Junco hyemalis*) are woodland foliage gleaners. Bark gleaner species, such as scrub jay (*Aphelocoma coerulescens*), Stellar's jay (*Cyanocitta stelleri*), and acorn woodpecker (*Melanerpes formicivorus*), feed on insects as well as acorns. California quail and brown towhee (*Pipilo fuscus*) are the ground foliage gleaners in this habitat. Cooper's hawk and sharp-shinned hawk are often associated with this habitat, where they hunt small birds. Mammals such as gray squirrel (*Sciurus griseus*) forage and nest in the canopy of the trees, while long-tailed weasels (*Mustela frenata*) hunt on the ground for shrews (*Sorex* sp.) and California voles (*Microtus californicus*). Larger mammals such as blacktailed deer (*Odocoileus hemionus*) utilize the wet understory of this community (i.e., poison oak and blackberry) in the form of shelter and food from the berries. Amphibians such as

Pacific slender salamander (*Batrachoseps attenuatus*), rough-skinned (*Taricha granulosa*), and ensatina (*Ensatina eschscholtzii*) live under the cover of fallen leaf litter.

Special-status plant species associated with woodland habitats are often also found in adjacent chaparral and scrub habitats. In the Bay Area these species include: rayless ragwort (*Senecio aphanactis*), hooked popcorn-flower (*Plagiobothrys uncinatus*), Mt. Diablo phacelia (*Phacelia phacelioides*), Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*), showy madia (*Madia radiata*), Mt. Hamilton lomatium (*Lomatium observatorium*), Jepson's linanthus (*Linanthus jepsonii*), coast lily (*Lilium maritimum*), Contra Costa goldfields (*Lasthenia conjugens*), drymaria-like western flax (*Hesperolinon drymarioides*), Diablo helianthella (*Helianthella castanea*), talus fritillary (*Fritillaria falcata*), Hillsborough chocolate lily (*Fritillaria biflora* var. *ineziana*), San Mateo woolly sunflower (*Eriophyllum latilobum*), Brandegee's eriastrum (*Eriastrum brandegeae*), Santa Clara Valley dudleya (*Dudleya setchellii*), western leatherwood (*Dirca occidentalis*), Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*), Robust spineflower (*Chorizanthe robusta* var. *robusta*), big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), Marin manzanita (*Arctostaphylos virgata*), pallid manzanita (*Arctostaphylos pallida*), large-flowered fiddleneck (*Amsinckia grandiflora*), and Sharsmith's onion (*Allium sharsmithae*). Special-status wildlife species include those described for grassland and riparian habitats in addition to purple martin (*Progne subis*), forest-nesting raptors, and species such as tree swallow (*Tachycineta bicolor*), Bullock's oriole (*Icterus bullockii*), and many other nesting birds. These species are protected under the Migratory Bird Treaty Act.

EUCALYPTUS GROVE

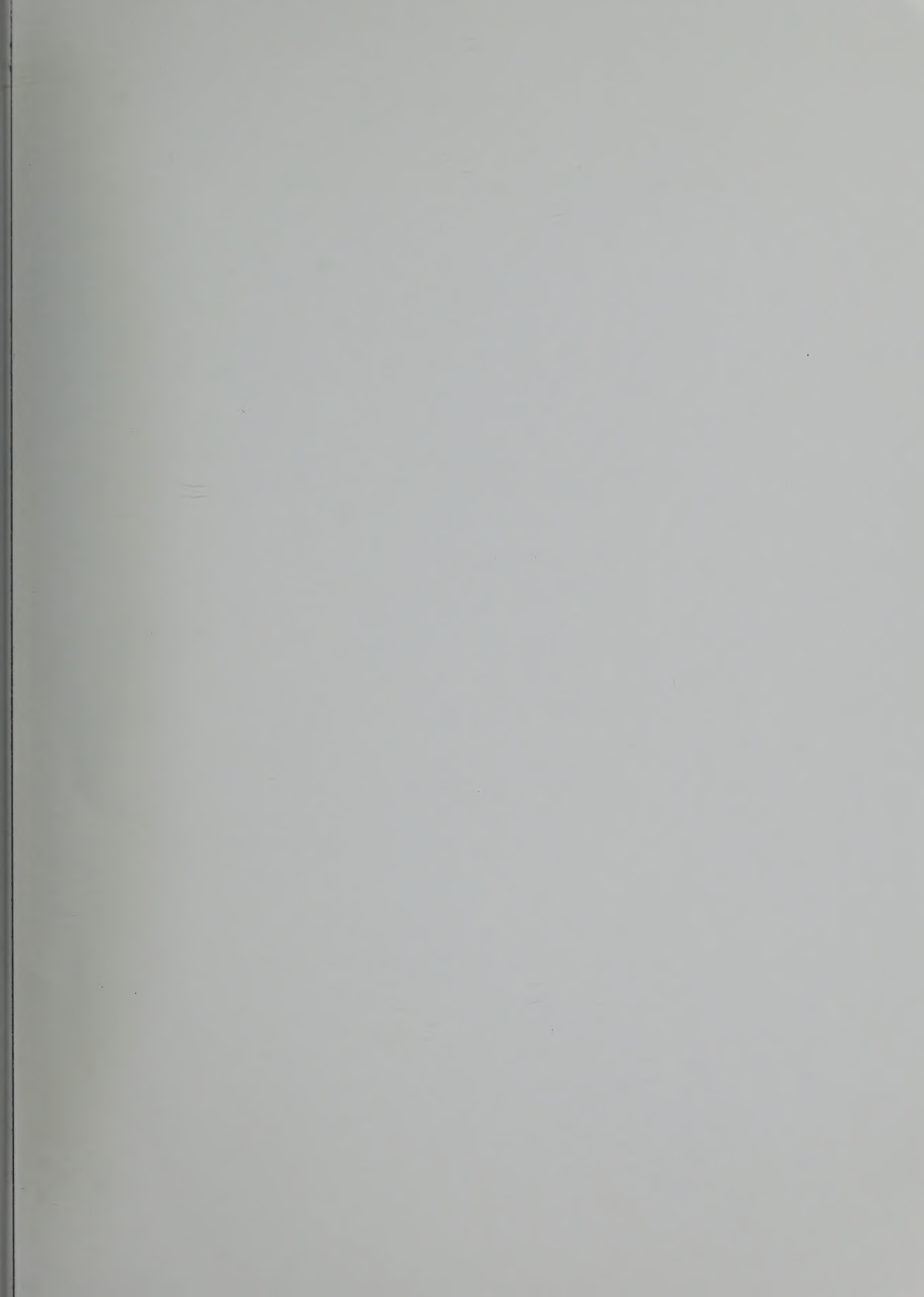
This vegetation community is usually monotypic, with only one species providing canopy and very little undergrowth. However, eucalyptus groves gradually establish dominance over and crowd out native plant communities as they expand. Structurally, eucalyptus (*Eucalyptus* sp.) creates a dense, shady canopy. Volatile chemicals contained in the bark and leaf litter deposited by eucalyptus create poor growing conditions for most herbaceous and woody understory species and may suppress the germination of native seeds. Where fire hazard management techniques have not been applied, the understory of this community consists of a thick layer of bark, leaves, and poison oak (where openings in the canopy allow sufficient light to penetrate to the grove floor), which in turn creates a high fire hazard.

These forests offer perching and roosting sites for a variety of avian species, with raptors often nesting in the groves. The lack of understory growth limits habitat for insects and other invertebrates and thus for the reptiles that prey upon them. Likewise, mammals do not regularly use this habitat, except for cover and resting areas. However, myotis bat species and California slender salamanders (*Batrachoseps attenuatus*) have been observed in this habitat. Other than nesting raptors, no special-status plant or wildlife species are typically associated with pure eucalyptus groves.

INTERIOR WETLANDS

Freshwater seeps and wet meadows occur on permanently moist soil and are dominated by perennial grasses, sedges (*Carex* spp.), and rushes (*Juncus* spp.). In the Bay Area, these wetlands typically occur on grazed hillsides or at the base of grassland slopes. Some of the common vegetation series represented in these habitats are sedge, bulrush, cattail, and spikerush (*Eleocharis* sp.) series. Rare species found in freshwater seep habitats include blue skullcap (*Scutellaria laterifolia*) from the Delta region.

Vernal pools are seasonal freshwater pools that form in depressions over an impermeable soil layer (claypan or hardpan) or parent material. The vegetation in vernal pools is primarily annual species with low cover and a short life cycle. Ephemeral seasonal wetlands habitat that supports vernal pool species occurs in the eastern Livermore-Amador Valley (I-580 corridor), Solano County (I-80 corridor), the city of Fremont (near the Fremont-South Bay corridor), the Brentwood area (State Route 4 corridor), and near the Napa County Airport (Napa Valley subarea). In addition, alkali meadows and seeps in Contra Costa County (State Route 4 corridor and I-580 corridor) support a similar cast of vernal pool endemic species. These pools support a distinctive flora with a number of endemic and rare species. Special-status invertebrates found in the above-described habitats include vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole (*Lepidurus packardii*). Freshwater emergent wetlands and adjacent grassland habitats in portions of the I-80 corridor in Solano County support populations of the federal-and state-threatened giant garter snake (*Thamnophis gigas*). Special-status plants include Solano grass (*Tuctoria mucronata*), vernal pool smallscale (*Atriplex persistens*), San Joaquin saltbush (*Atriplex joaquiniana*), brittlescale (*Atriplex depressa*), and alkali milk vetch (*Astragalus tener* var. *tener*).





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